

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 600)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 4x + 28 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-9 + 3i$  and  $-5 - 4i$  in standard form  $(a + bi)$ .

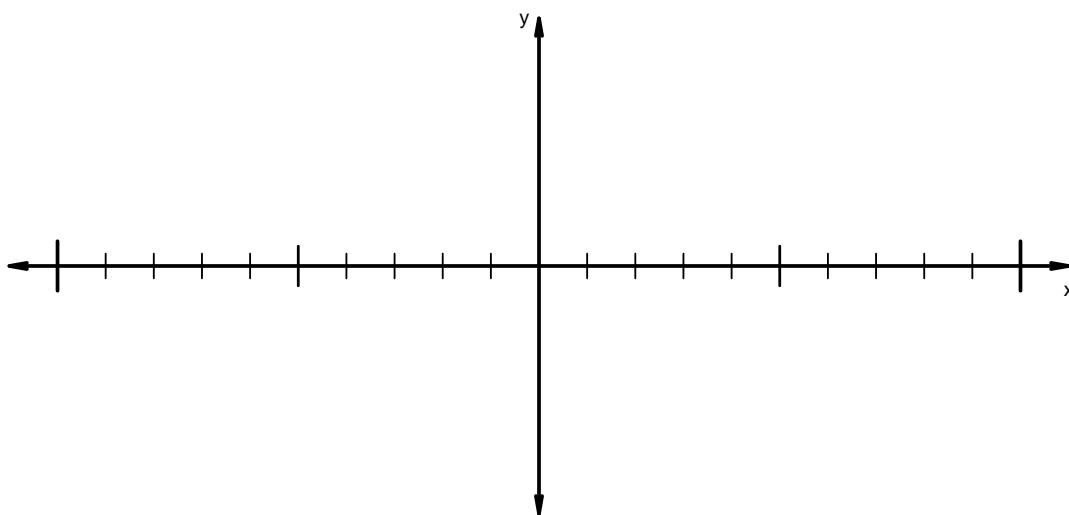
## Polynomial Factoring EXAM (version 600)

3. Write function  $f(x) = x^3 - 5x^2 - 8x + 12$  in factored form. I'll give you a hint: one factor is  $(x - 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 7)^2 \cdot (x + 3) \cdot (x - 2)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 601)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 33 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-5 + 7i$  and  $-9 + 2i$  in standard form  $(a + bi)$ .

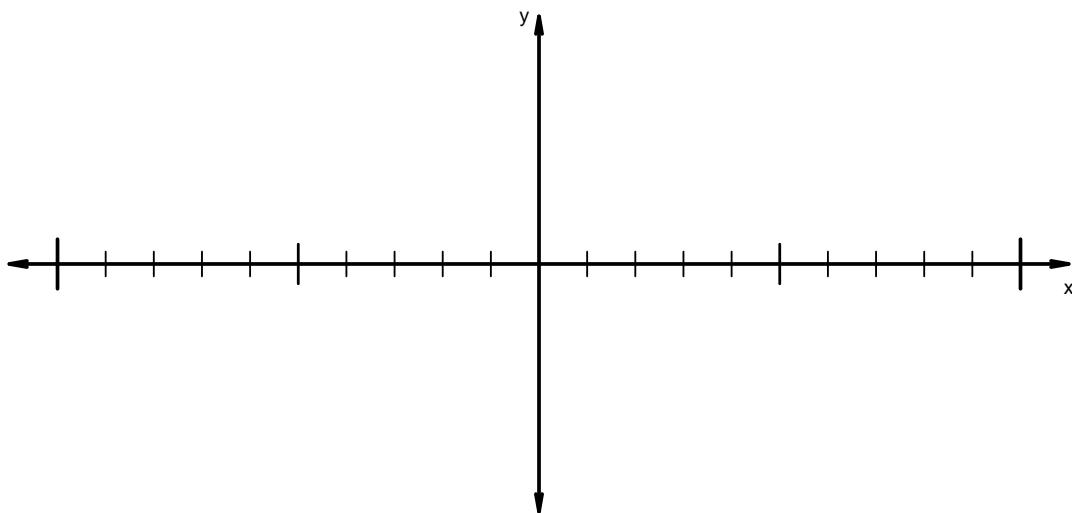
## Polynomial Factoring EXAM (version 601)

3. Write function  $f(x) = x^3 - 4x^2 - 11x + 30$  in factored form. I'll give you a hint: one factor is  $(x - 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 5) \cdot (x + 1)^2 \cdot (x - 3)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 602)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 15 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-2 + 7i$  and  $6 + 8i$  in standard form  $(a + bi)$ .

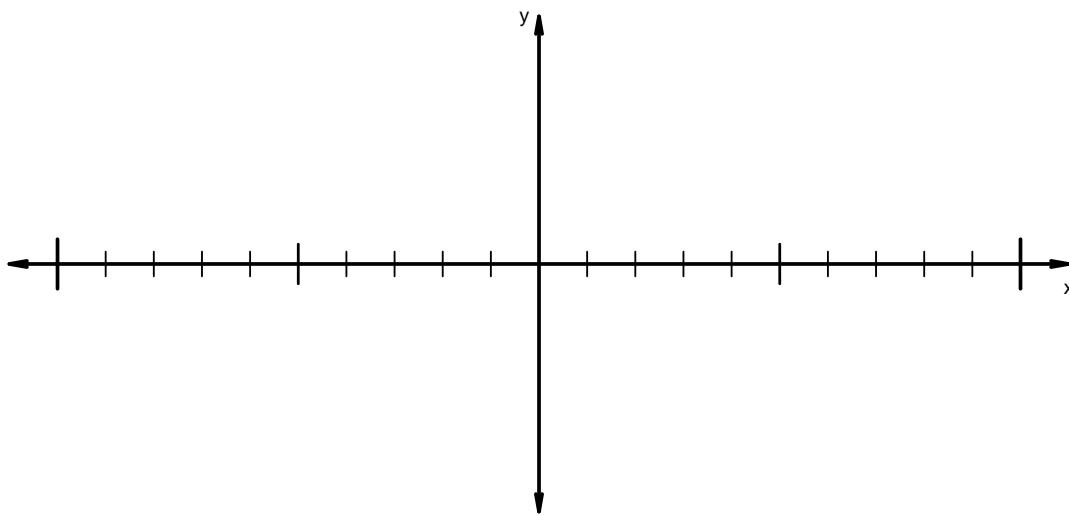
## Polynomial Factoring EXAM (version 602)

3. Write function  $f(x) = x^3 + 8x^2 - 3x - 90$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 6)^2 \cdot (x + 2) \cdot (x - 1) \cdot (x - 4)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 603)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 2x + 28 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-2 - 8i$  and  $-4 - 6i$  in standard form  $(a + bi)$ .

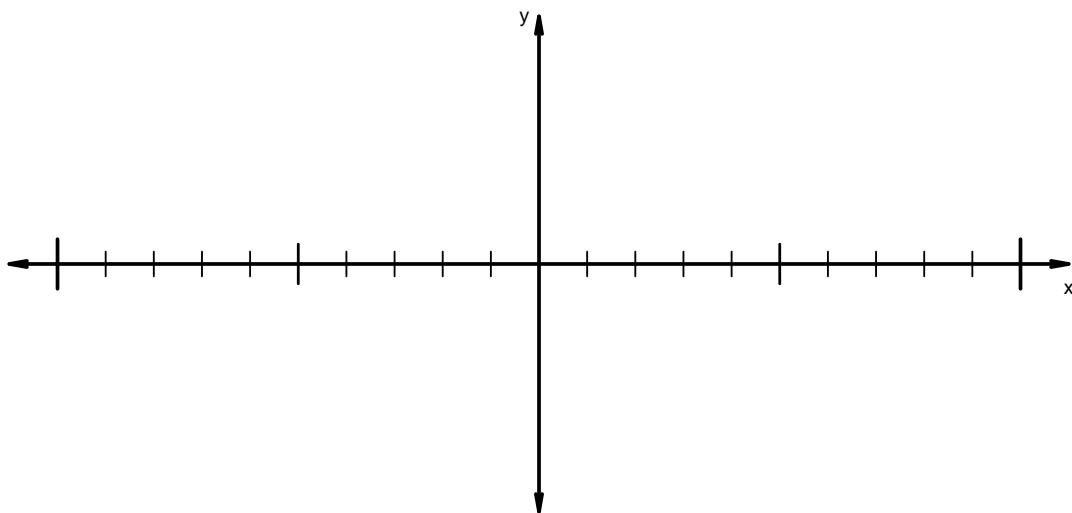
## Polynomial Factoring EXAM (version 603)

3. Write function  $f(x) = x^3 + 2x^2 - 9x - 18$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4)^2 \cdot (x - 1)^2 \cdot (x - 6)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 604)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 6x + 21 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-2 + 9i$  and  $-5 + 7i$  in standard form  $(a + bi)$ .

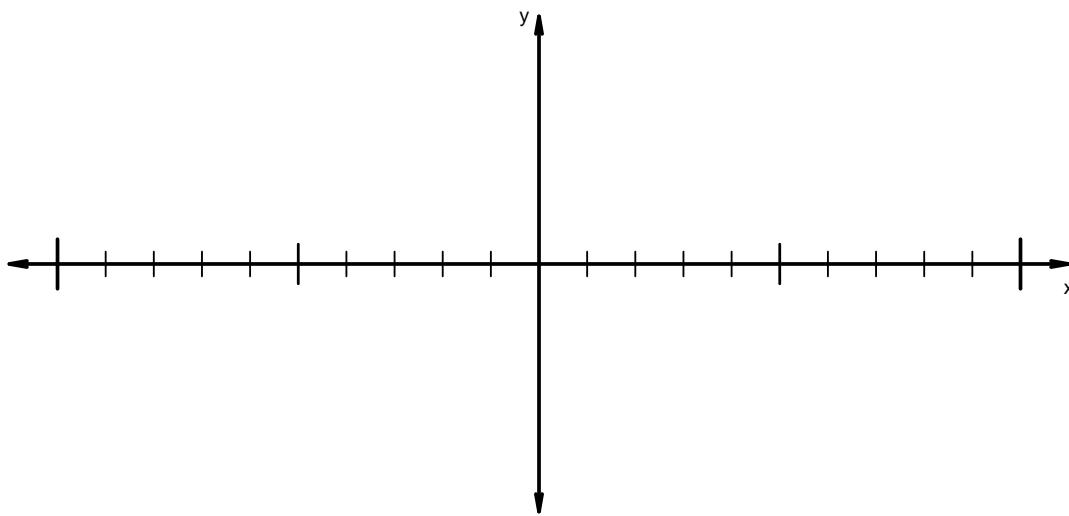
## Polynomial Factoring EXAM (version 604)

3. Write function  $f(x) = x^3 + x^2 - 24x + 36$  in factored form. I'll give you a hint: one factor is  $(x + 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 5) \cdot (x + 1)^2 \cdot (x - 3)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 605)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 43 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $4 + 3i$  and  $-9 + 5i$  in standard form  $(a + bi)$ .

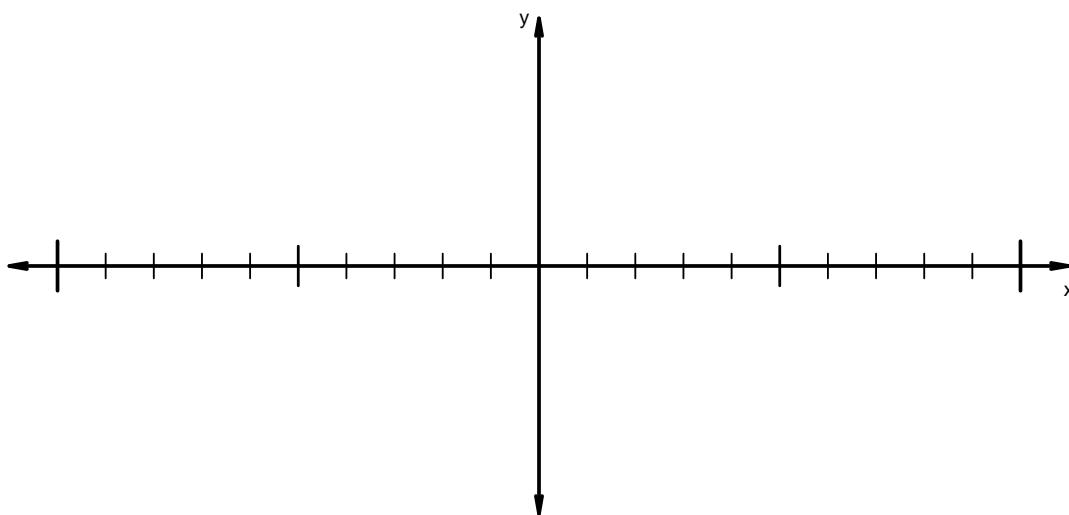
## Polynomial Factoring EXAM (version 605)

3. Write function  $f(x) = x^3 - 4x^2 - 11x + 30$  in factored form. I'll give you a hint: one factor is  $(x - 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 8)^2 \cdot (x + 5) \cdot (x + 1) \cdot (x - 3)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 606)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 2x + 21 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 + 8i$  and  $-3 - 9i$  in standard form  $(a + bi)$ .

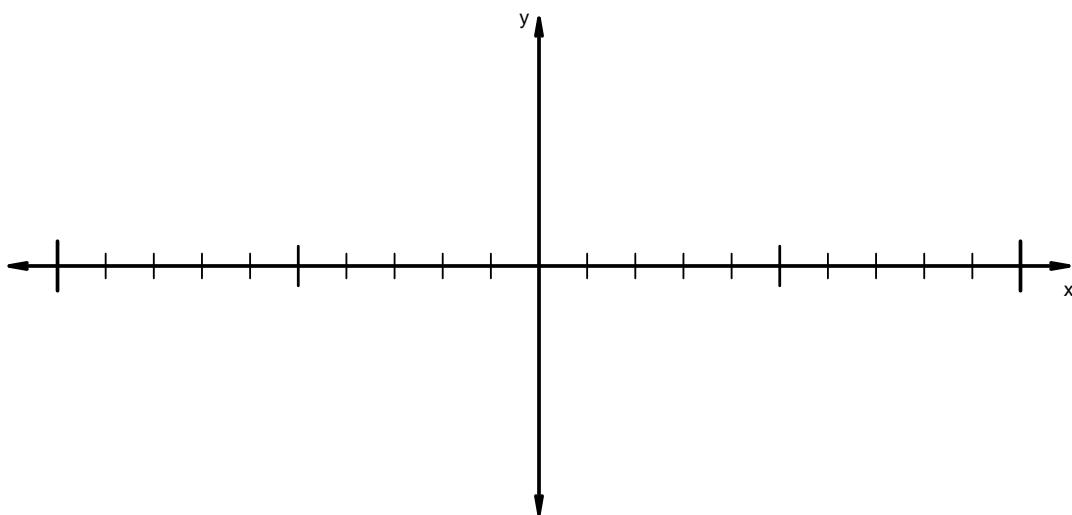
## Polynomial Factoring EXAM (version 606)

3. Write function  $f(x) = x^3 + 12x^2 + 47x + 60$  in factored form. I'll give you a hint: one factor is  $(x + 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 8)^2 \cdot (x + 3) \cdot (x - 1)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 607)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 8x + 24 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 - 4i$  and  $-3 - 5i$  in standard form  $(a + bi)$ .

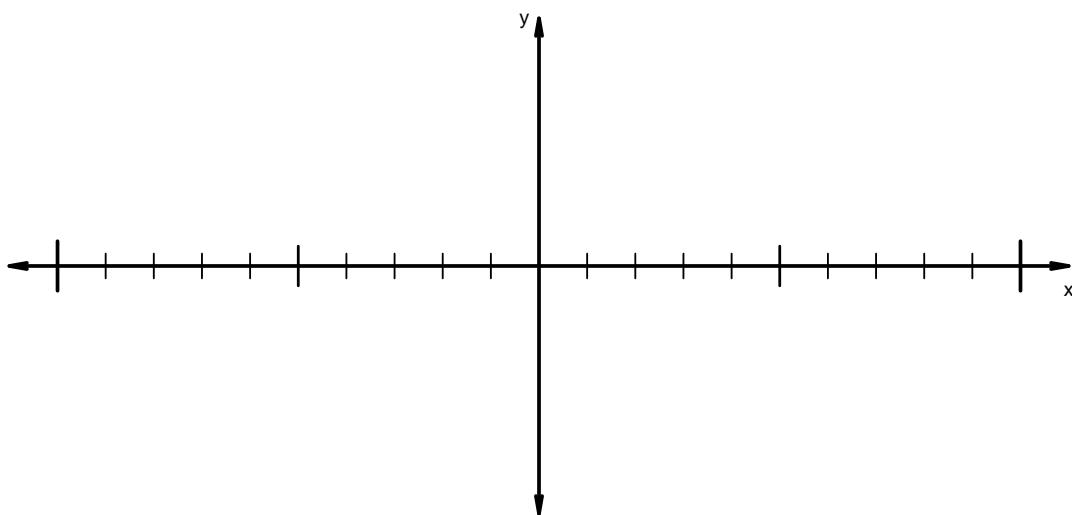
## Polynomial Factoring EXAM (version 607)

3. Write function  $f(x) = x^3 - 7x^2 - 6x + 72$  in factored form. I'll give you a hint: one factor is  $(x - 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 2)^2 \cdot (x - 1) \cdot (x - 4)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 608)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 37 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $7 + 5i$  and  $8 - 2i$  in standard form  $(a + bi)$ .

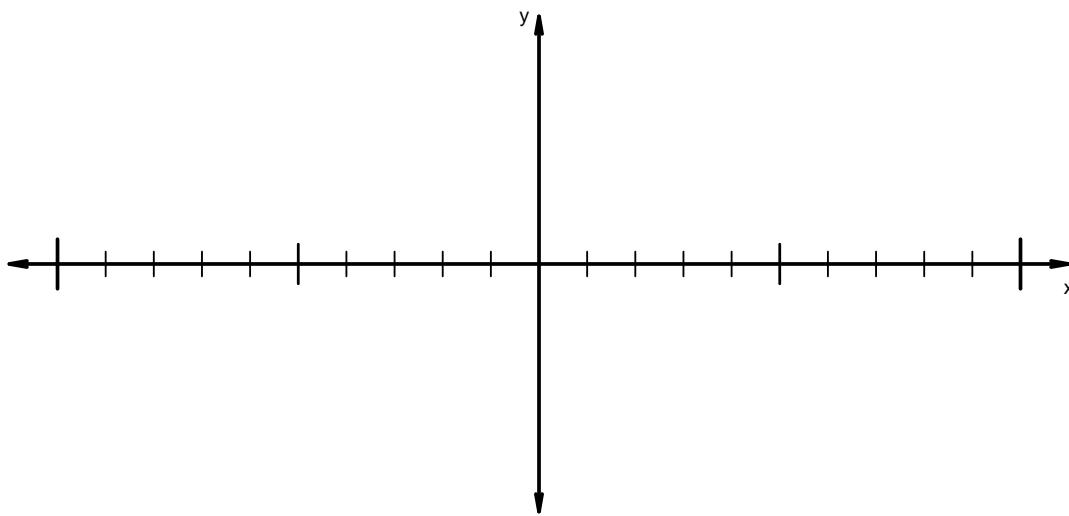
## Polynomial Factoring EXAM (version 608)

3. Write function  $f(x) = x^3 - 5x^2 - 2x + 24$  in factored form. I'll give you a hint: one factor is  $(x - 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 5) \cdot (x + 2)^2 \cdot (x - 2)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 609)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 43 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $4 + 6i$  and  $-3 + 5i$  in standard form  $(a + bi)$ .

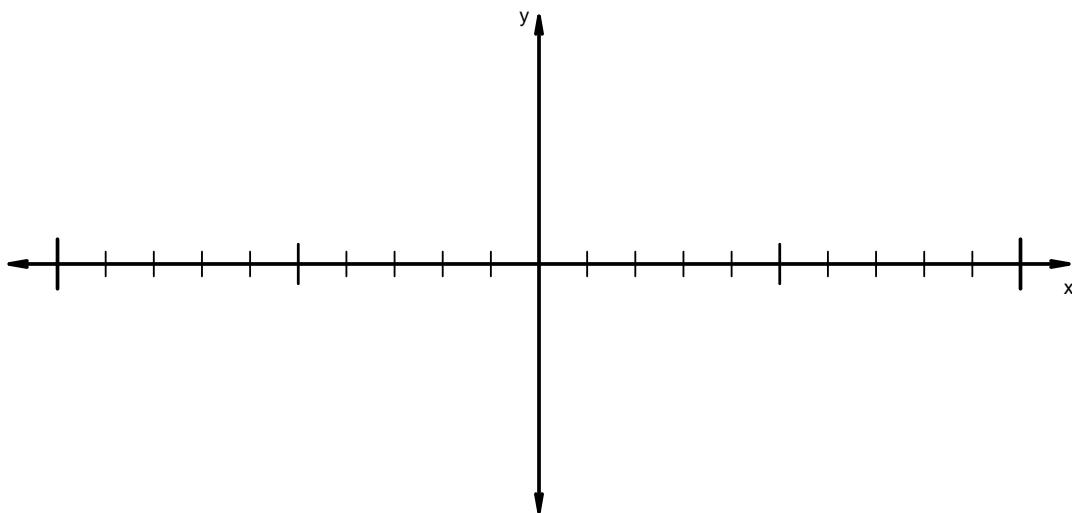
## Polynomial Factoring EXAM (version 609)

3. Write function  $f(x) = x^3 - 5x^2 + 2x + 8$  in factored form. I'll give you a hint: one factor is  $(x - 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 5) \cdot (x + 1) \cdot (x - 4)^2 \cdot (x - 7)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 610)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 8x + 40 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $8 + 2i$  and  $-7 + 9i$  in standard form  $(a + bi)$ .

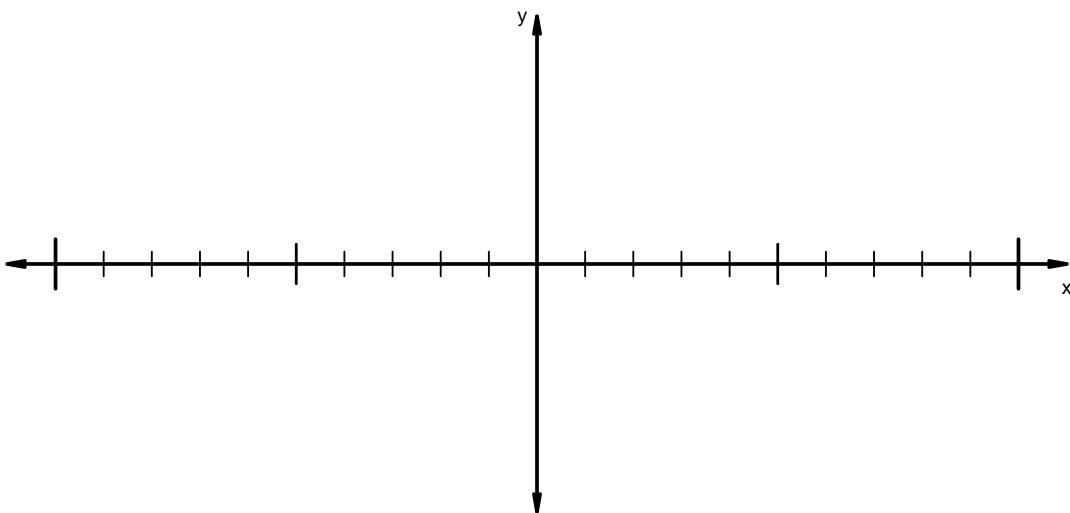
## Polynomial Factoring EXAM (version 610)

3. Write function  $f(x) = x^3 - 2x^2 - 13x - 10$  in factored form. I'll give you a hint: one factor is  $(x + 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 2) \cdot (x - 3)^2 \cdot (x - 7)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 611)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 8x + 40 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-8 - 5i$  and  $-4 - 7i$  in standard form  $(a + bi)$ .

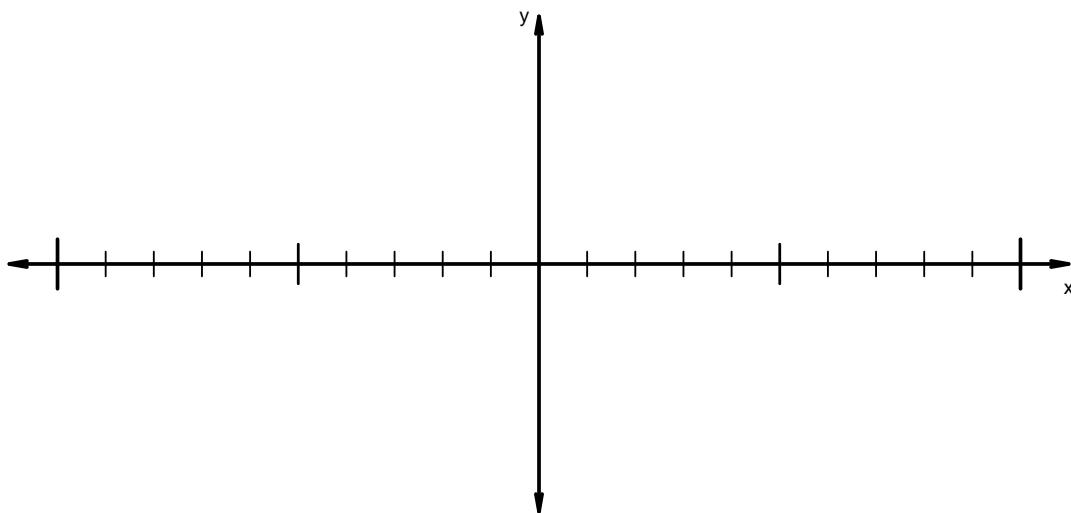
## Polynomial Factoring EXAM (version 611)

3. Write function  $f(x) = x^3 + 3x^2 - 22x - 24$  in factored form. I'll give you a hint: one factor is  $(x + 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 6)^2 \cdot (x + 2)^2 \cdot (x - 1)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 612)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 27 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-8 + 2i$  and  $9 + 3i$  in standard form  $(a + bi)$ .

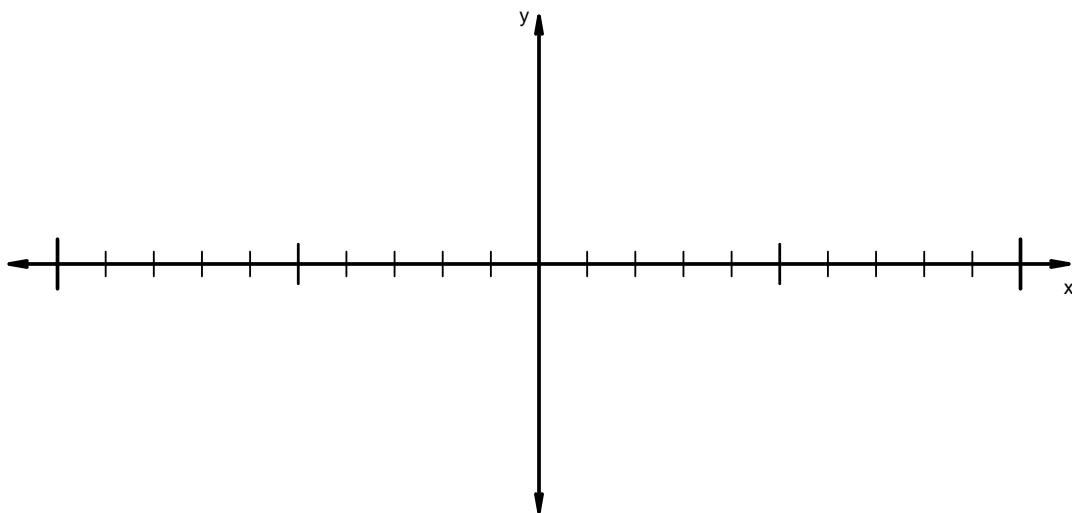
## Polynomial Factoring EXAM (version 612)

3. Write function  $f(x) = x^3 + 3x^2 - 22x - 24$  in factored form. I'll give you a hint: one factor is  $(x - 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4) \cdot (x + 1)^2 \cdot (x - 4)^2 \cdot (x - 7)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 613)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 19 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $4 - 8i$  and  $-2 + 7i$  in standard form  $(a + bi)$ .

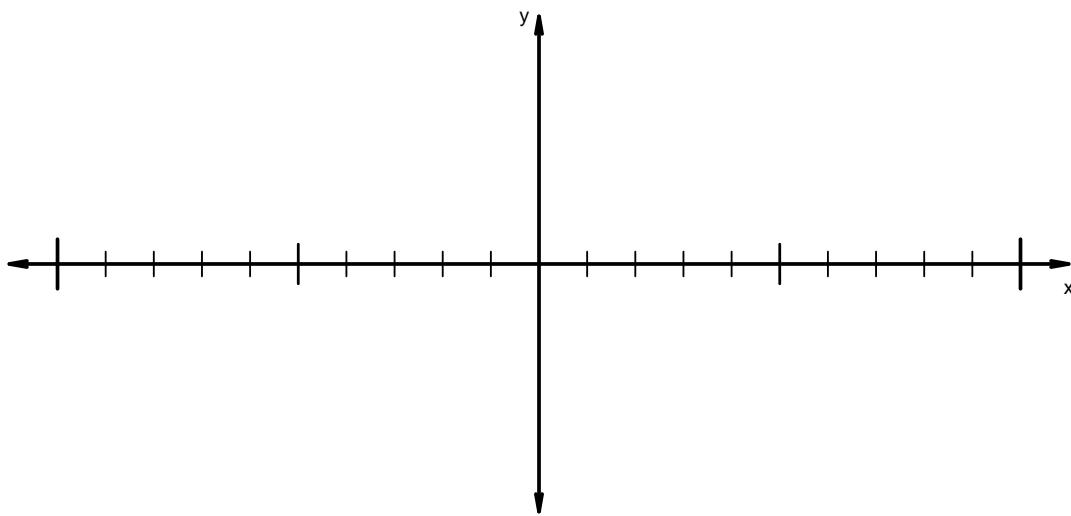
## Polynomial Factoring EXAM (version 613)

3. Write function  $f(x) = x^3 - 7x^2 - 6x + 72$  in factored form. I'll give you a hint: one factor is  $(x - 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 6) \cdot (x + 2)^2 \cdot (x - 1) \cdot (x - 6)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 614)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 10x + 37 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $7 - 2i$  and  $-5 + 9i$  in standard form  $(a + bi)$ .

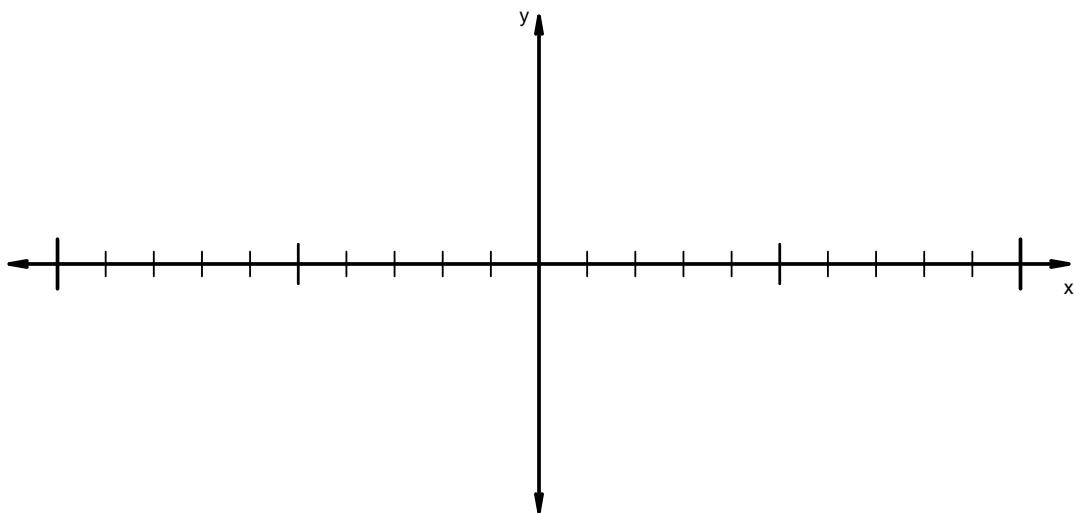
## Polynomial Factoring EXAM (version 614)

3. Write function  $f(x) = x^3 - 3x^2 - 22x + 24$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7) \cdot (x + 3)^2 \cdot (x - 1)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 615)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 6x + 36 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-6 - 8i$  and  $7 + 2i$  in standard form  $(a + bi)$ .

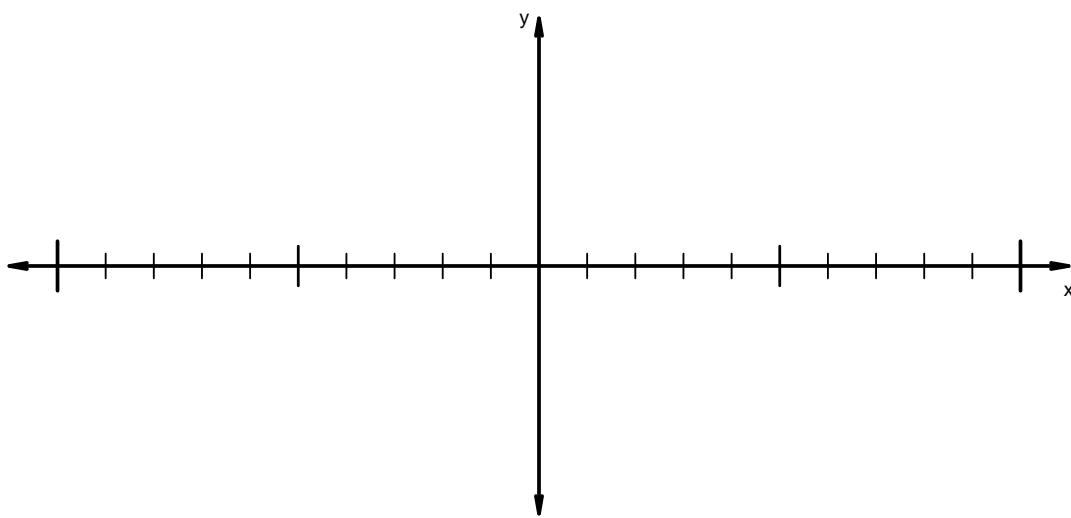
## Polynomial Factoring EXAM (version 615)

3. Write function  $f(x) = x^3 - 7x^2 - 6x + 72$  in factored form. I'll give you a hint: one factor is  $(x - 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 2) \cdot (x - 1)^2 \cdot (x - 4)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 616)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 15 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $3 + 5i$  and  $9 + 6i$  in standard form  $(a + bi)$ .

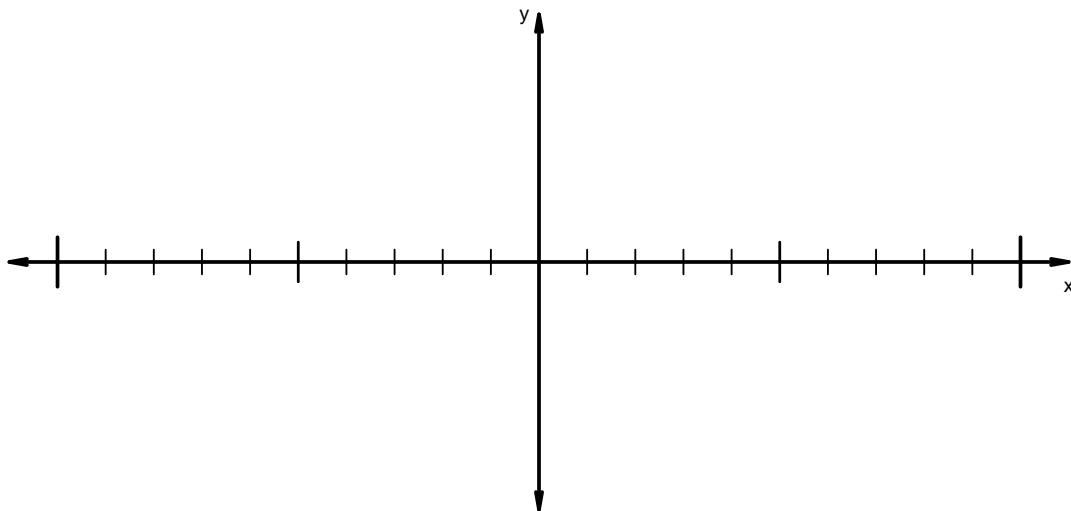
## Polynomial Factoring EXAM (version 616)

3. Write function  $f(x) = x^3 + 2x^2 - 23x - 60$  in factored form. I'll give you a hint: one factor is  $(x + 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 8) \cdot (x + 3)^2 \cdot (x - 1)^2 \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 617)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 12 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-2 - 9i$  and  $-8 + 4i$  in standard form  $(a + bi)$ .

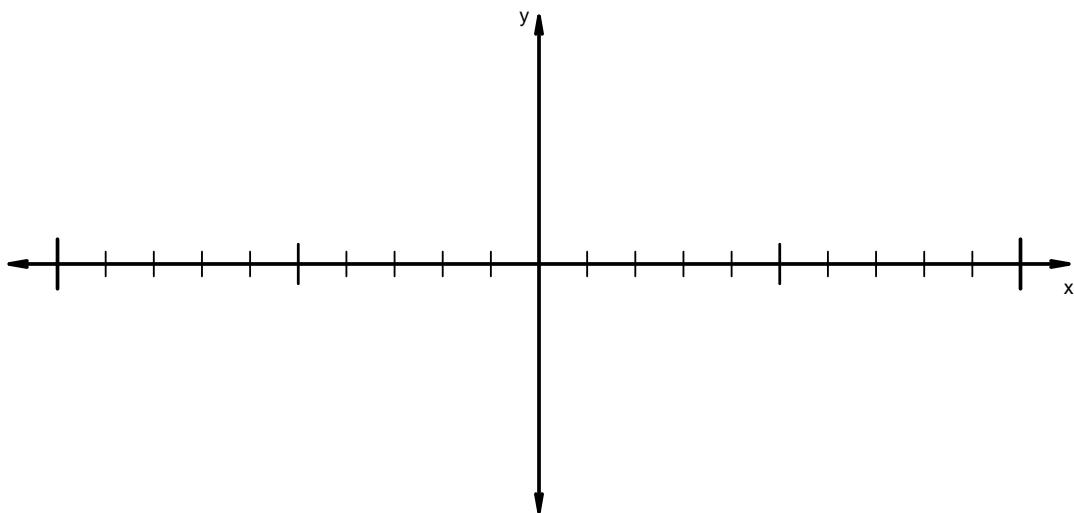
## Polynomial Factoring EXAM (version 617)

3. Write function  $f(x) = x^3 - 3x^2 - 18x + 40$  in factored form. I'll give you a hint: one factor is  $(x - 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4) \cdot (x - 1) \cdot (x - 4) \cdot (x - 7)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 618)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 4x + 28 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-3 + 4i$  and  $-7 - 5i$  in standard form  $(a + bi)$ .

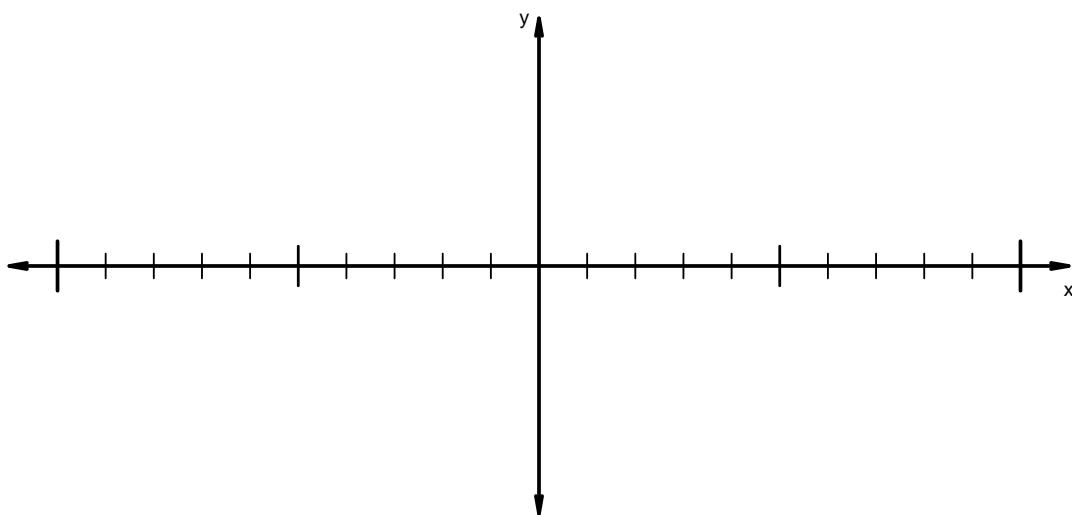
## Polynomial Factoring EXAM (version 618)

3. Write function  $f(x) = x^3 + 12x^2 + 47x + 60$  in factored form. I'll give you a hint: one factor is  $(x + 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4) \cdot (x + 1)^2 \cdot (x - 2)^2 \cdot (x - 7)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 619)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 4x + 28 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $8 + 6i$  and  $5 - 2i$  in standard form  $(a + bi)$ .

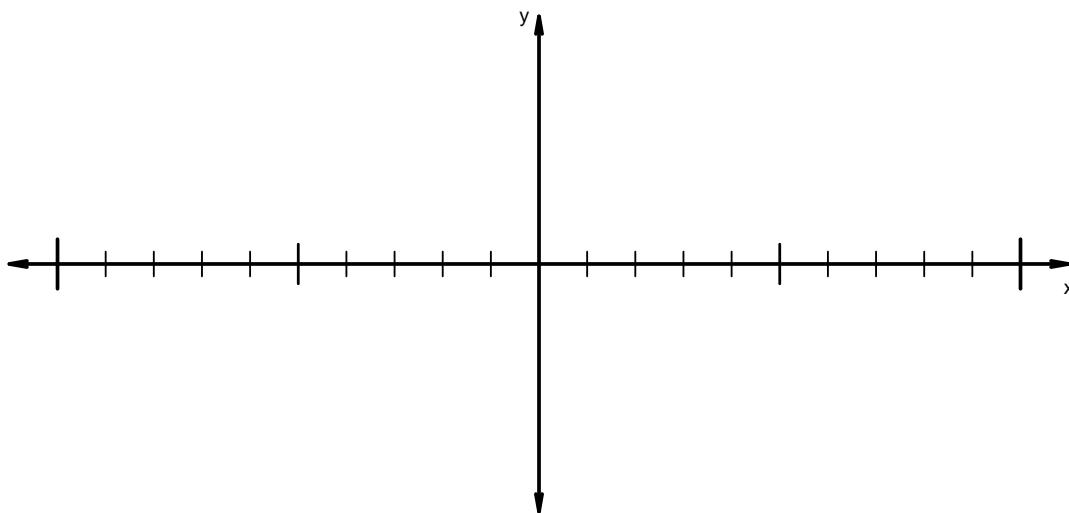
## Polynomial Factoring EXAM (version 619)

3. Write function  $f(x) = x^3 + 6x^2 + 11x + 6$  in factored form. I'll give you a hint: one factor is  $(x + 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 8)^2 \cdot (x + 3)^2 \cdot (x - 2)^2 \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Polynomial Factoring EXAM (version 620)**

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 45 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $9 - 7i$  and  $-6 - 3i$  in standard form  $(a + bi)$ .

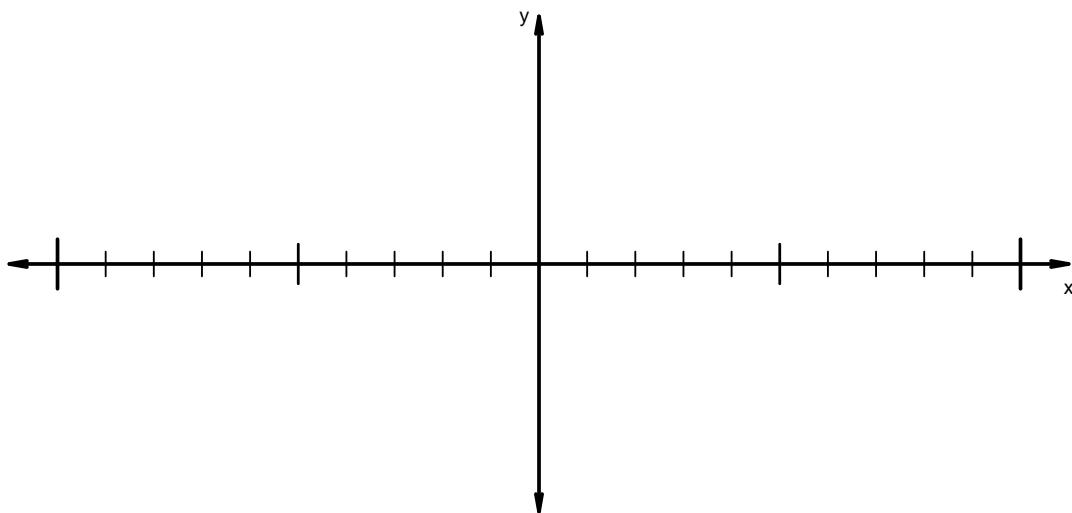
## Polynomial Factoring EXAM (version 620)

3. Write function  $f(x) = x^3 - 7x^2 - 14x + 120$  in factored form. I'll give you a hint: one factor is  $(x + 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 3) \cdot (x - 2) \cdot (x - 6)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 621)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 2x + 19 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $5 - 6i$  and  $-7 + 2i$  in standard form  $(a + bi)$ .

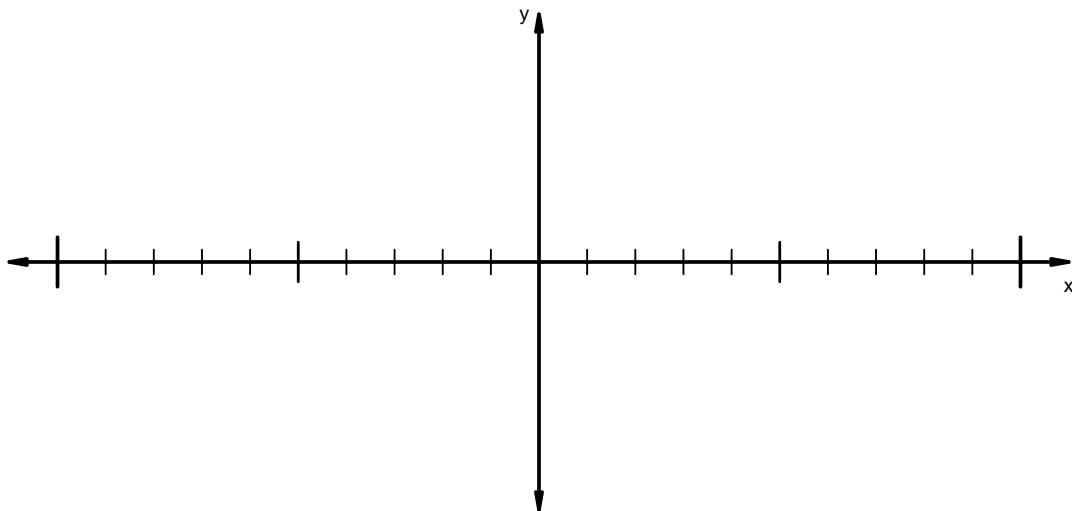
## Polynomial Factoring EXAM (version 621)

3. Write function  $f(x) = x^3 + x^2 - 22x - 40$  in factored form. I'll give you a hint: one factor is  $(x + 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 3)^2 \cdot (x - 2) \cdot (x - 5)^2 \cdot (x - 8)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 622)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 6x + 29 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-5 + 6i$  and  $-8 - 2i$  in standard form  $(a + bi)$ .

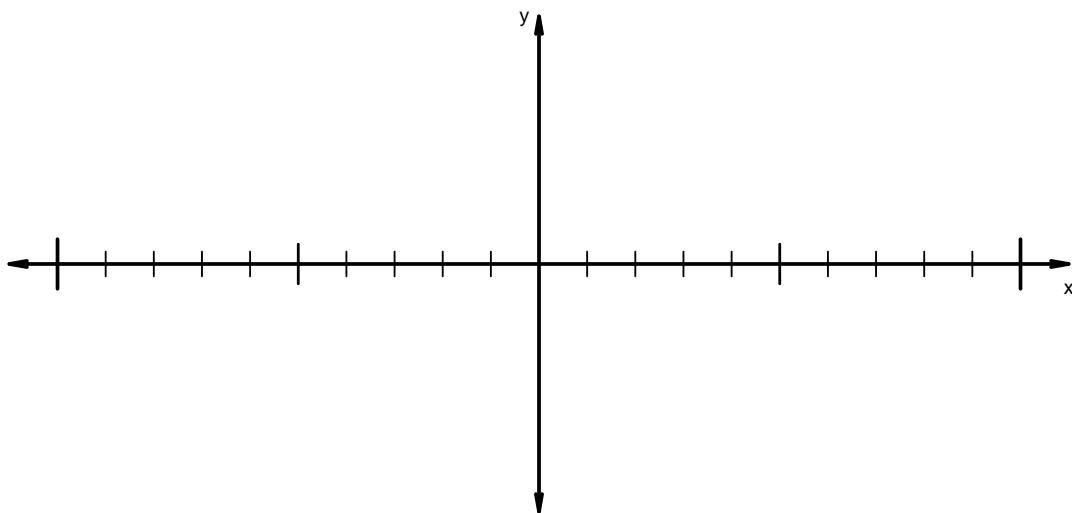
## Polynomial Factoring EXAM (version 622)

3. Write function  $f(x) = x^3 + 2x^2 - 29x - 30$  in factored form. I'll give you a hint: one factor is  $(x + 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 8) \cdot (x + 5) \cdot (x + 2)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 623)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 2x + 25 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-6 - 9i$  and  $-7 + 4i$  in standard form  $(a + bi)$ .

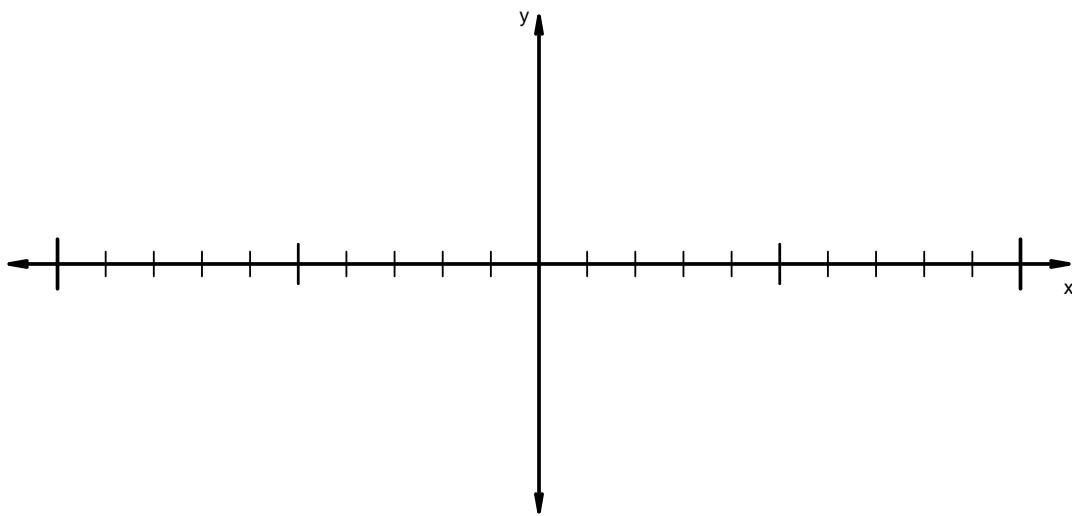
## Polynomial Factoring EXAM (version 623)

3. Write function  $f(x) = x^3 - 10x^2 + 29x - 20$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 2)^2 \cdot (x - 2) \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 624)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 49 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 + 2i$  and  $-9 - 4i$  in standard form  $(a + bi)$ .

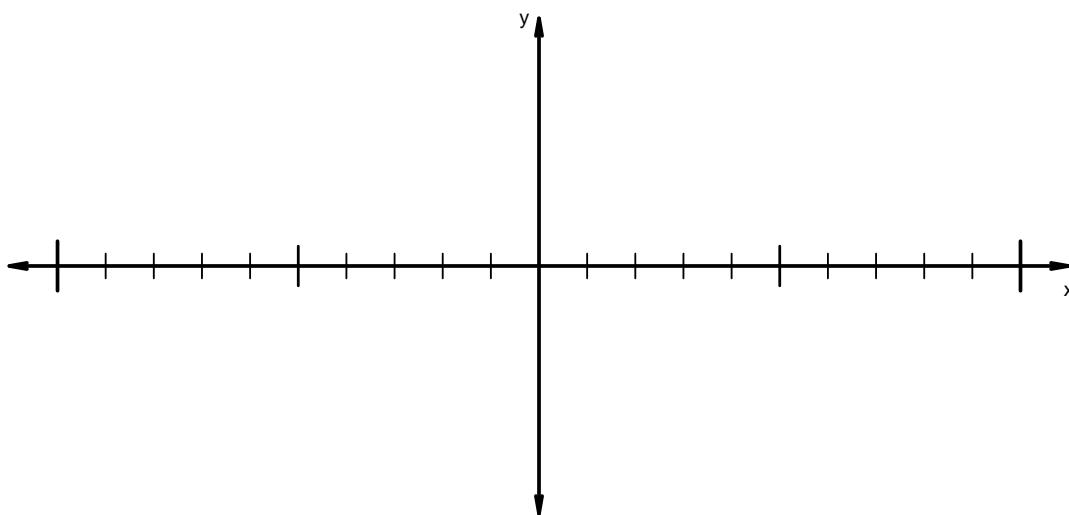
## Polynomial Factoring EXAM (version 624)

3. Write function  $f(x) = x^3 - 5x^2 - 2x + 24$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 8) \cdot (x + 4)^2 \cdot (x - 1)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 625)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 24 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $3 + 7i$  and  $-6 - 8i$  in standard form  $(a + bi)$ .

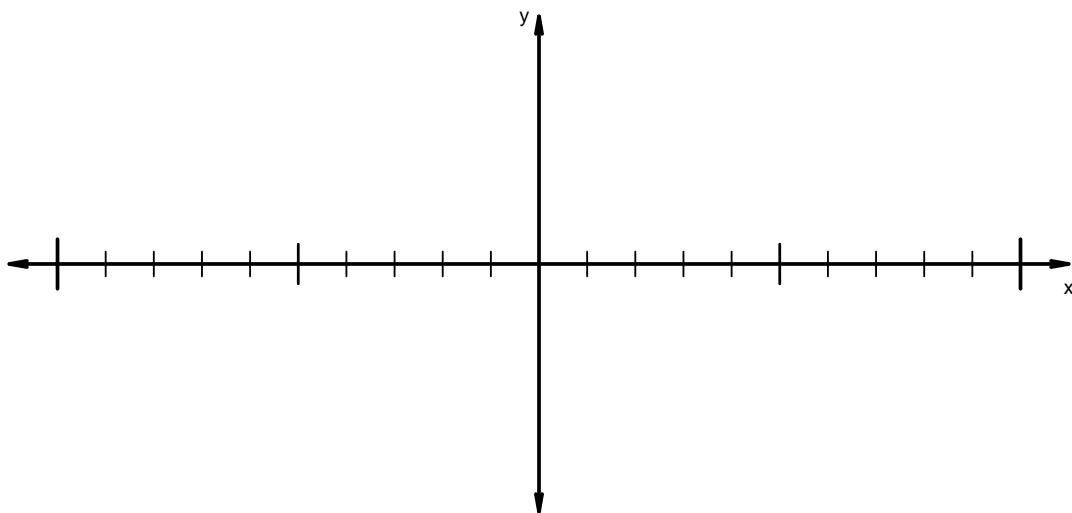
## Polynomial Factoring EXAM (version 625)

3. Write function  $f(x) = x^3 - 3x^2 - 22x + 24$  in factored form. I'll give you a hint: one factor is  $(x - 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 5)^2 \cdot (x + 2)^2 \cdot (x - 2)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 626)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 36 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 - 3i$  and  $7 + 4i$  in standard form  $(a + bi)$ .

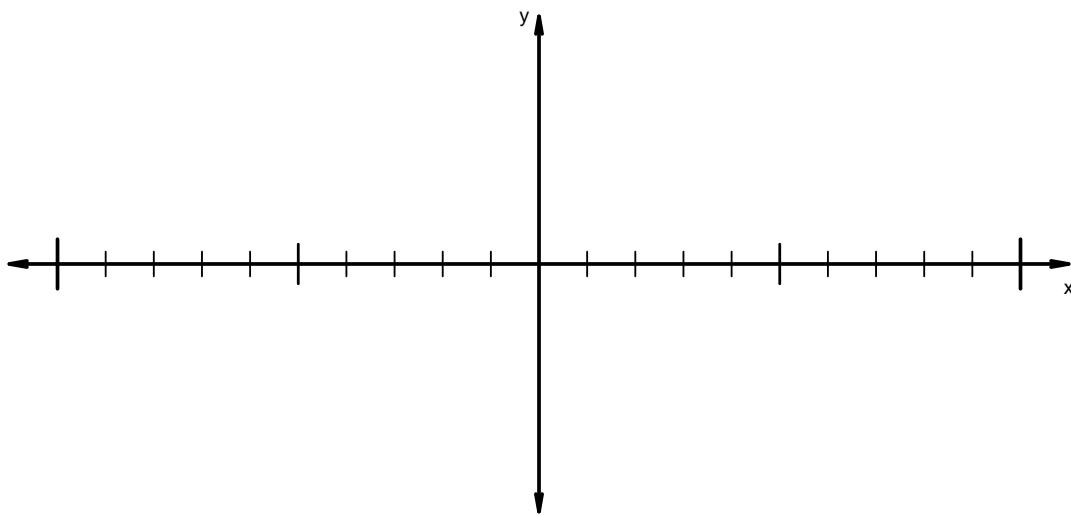
## Polynomial Factoring EXAM (version 626)

3. Write function  $f(x) = x^3 - 2x^2 - 19x + 20$  in factored form. I'll give you a hint: one factor is  $(x + 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7)^2 \cdot (x + 3)^2 \cdot (x - 2)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 627)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 34 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-3 - 2i$  and  $-4 - 7i$  in standard form  $(a + bi)$ .

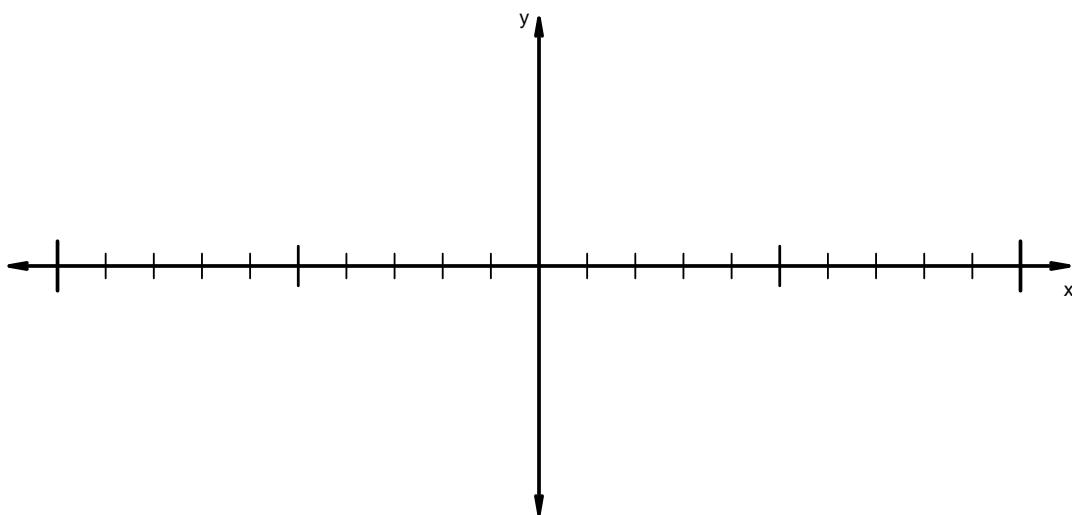
## Polynomial Factoring EXAM (version 627)

3. Write function  $f(x) = x^3 + 5x^2 - 2x - 24$  in factored form. I'll give you a hint: one factor is  $(x + 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 2)^2 \cdot (x - 1) \cdot (x - 4)^2 \cdot (x - 7)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 628)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 24 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 + 4i$  and  $5 - 3i$  in standard form  $(a + bi)$ .

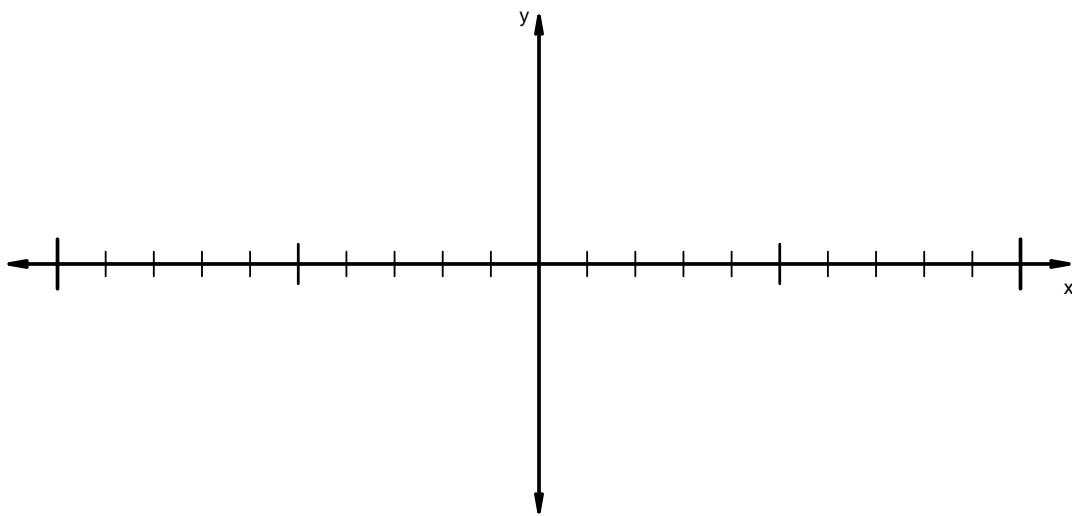
## Polynomial Factoring EXAM (version 628)

3. Write function  $f(x) = x^3 - x^2 - 22x + 40$  in factored form. I'll give you a hint: one factor is  $(x - 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7)^2 \cdot (x + 3) \cdot (x - 2)^2 \cdot (x - 6)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 629)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 2x + 3 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-2 + 8i$  and  $-3 + 6i$  in standard form  $(a + bi)$ .

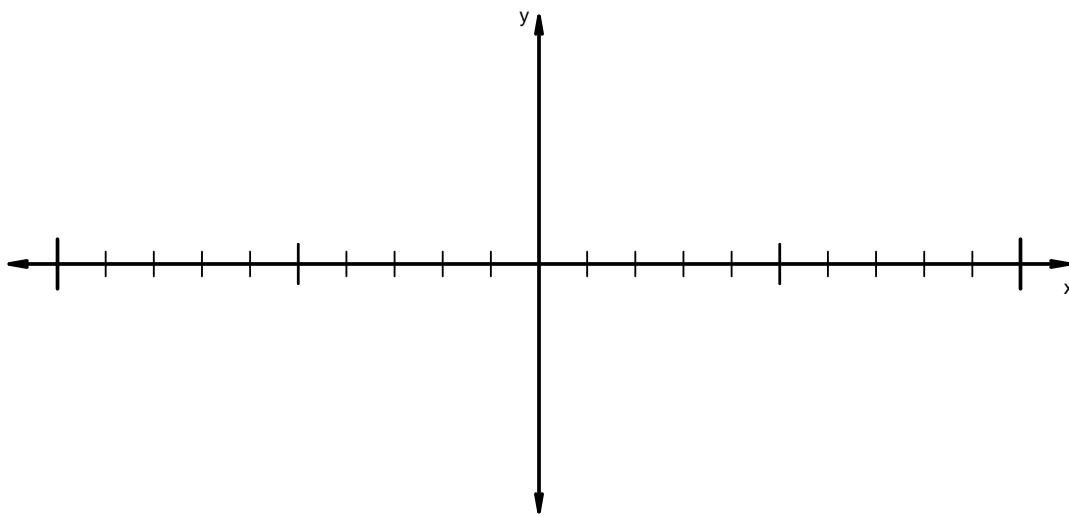
## Polynomial Factoring EXAM (version 629)

3. Write function  $f(x) = x^3 + 6x^2 - 7x - 60$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 8)^2 \cdot (x + 5) \cdot (x + 1) \cdot (x - 4)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 630)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 12 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $4 + 5i$  and  $7 + 8i$  in standard form  $(a + bi)$ .

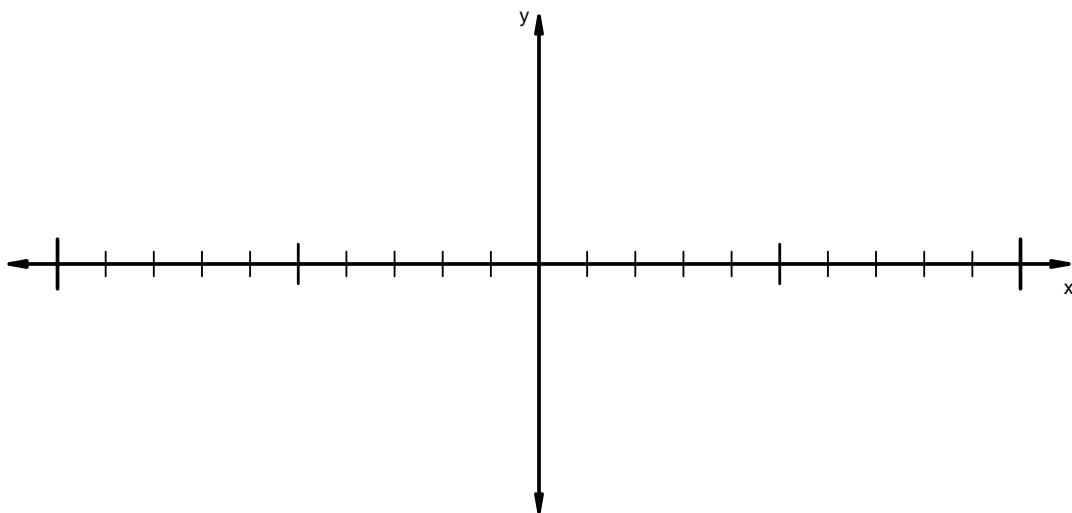
## Polynomial Factoring EXAM (version 630)

3. Write function  $f(x) = x^3 - 3x^2 - 6x + 8$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4) \cdot (x + 1)^2 \cdot (x - 4) \cdot (x - 8)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 631)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 8x + 34 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $7 + 8i$  and  $-5 - 3i$  in standard form  $(a + bi)$ .

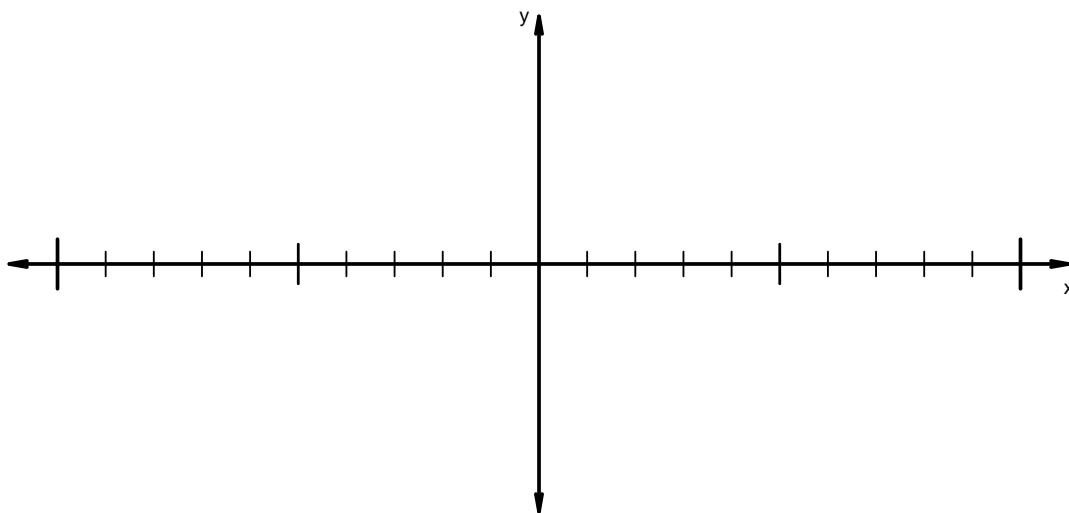
## Polynomial Factoring EXAM (version 631)

3. Write function  $f(x) = x^3 - x^2 - 36x + 36$  in factored form. I'll give you a hint: one factor is  $(x + 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 7) \cdot (x + 4)^2 \cdot (x - 1) \cdot (x - 6)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 632)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 12x + 63 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 + 3i$  and  $4 + 9i$  in standard form  $(a + bi)$ .

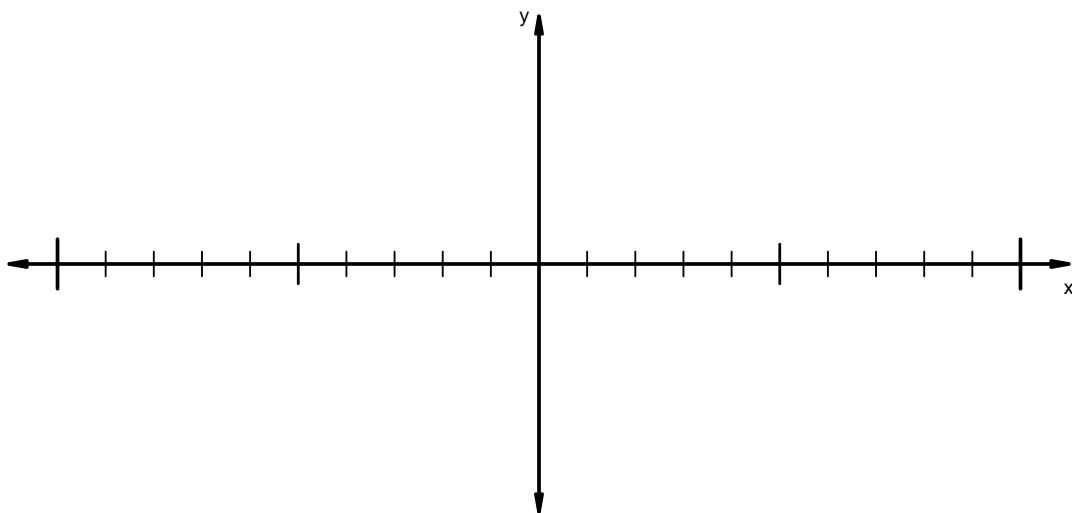
## Polynomial Factoring EXAM (version 632)

3. Write function  $f(x) = x^3 - 9x^2 + 20x - 12$  in factored form. I'll give you a hint: one factor is  $(x - 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 5)^2 \cdot (x + 1)^2 \cdot (x - 2)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 633)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 10x + 43 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $7 + 3i$  and  $-5 + 6i$  in standard form  $(a + bi)$ .

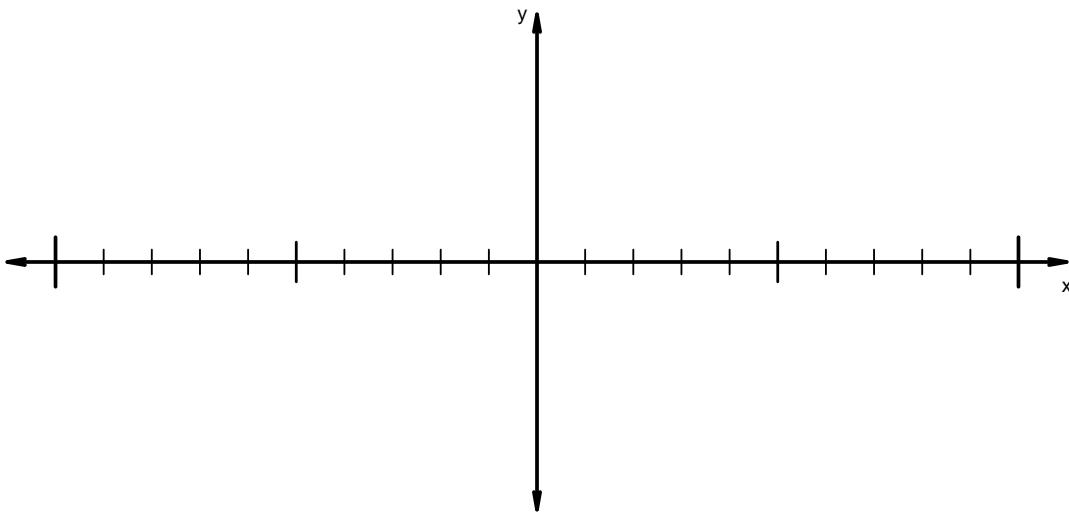
## Polynomial Factoring EXAM (version 633)

3. Write function  $f(x) = x^3 + 15x^2 + 74x + 120$  in factored form. I'll give you a hint: one factor is  $(x + 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 4) \cdot (x + 1)^2 \cdot (x - 4)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 634)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 44 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 - 6i$  and  $-4 - 5i$  in standard form  $(a + bi)$ .

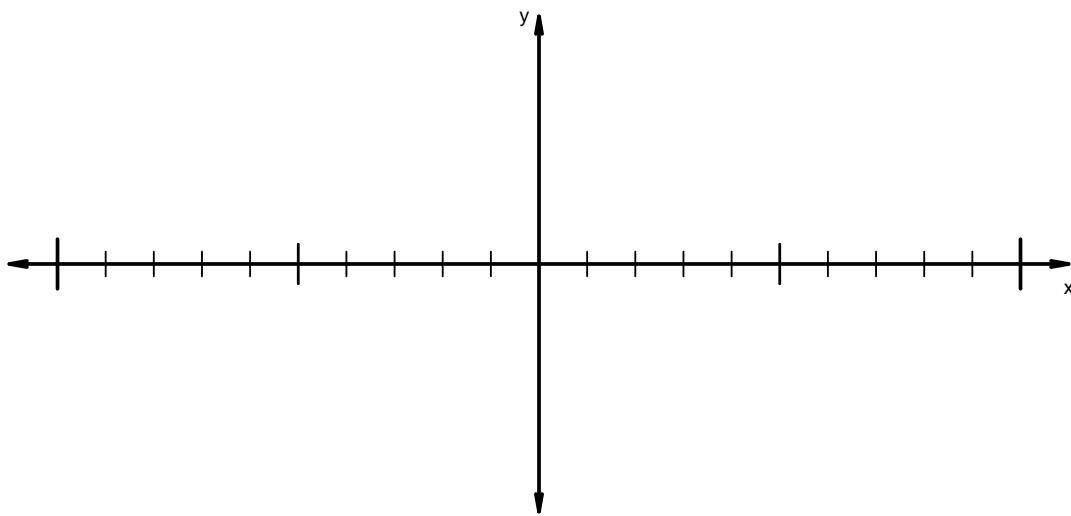
## Polynomial Factoring EXAM (version 634)

3. Write function  $f(x) = x^3 - 10x^2 + 31x - 30$  in factored form. I'll give you a hint: one factor is  $(x - 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 8) \cdot (x + 3) \cdot (x - 2)^2 \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 635)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 4x + 31 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $7 + 4i$  and  $3 + 2i$  in standard form  $(a + bi)$ .

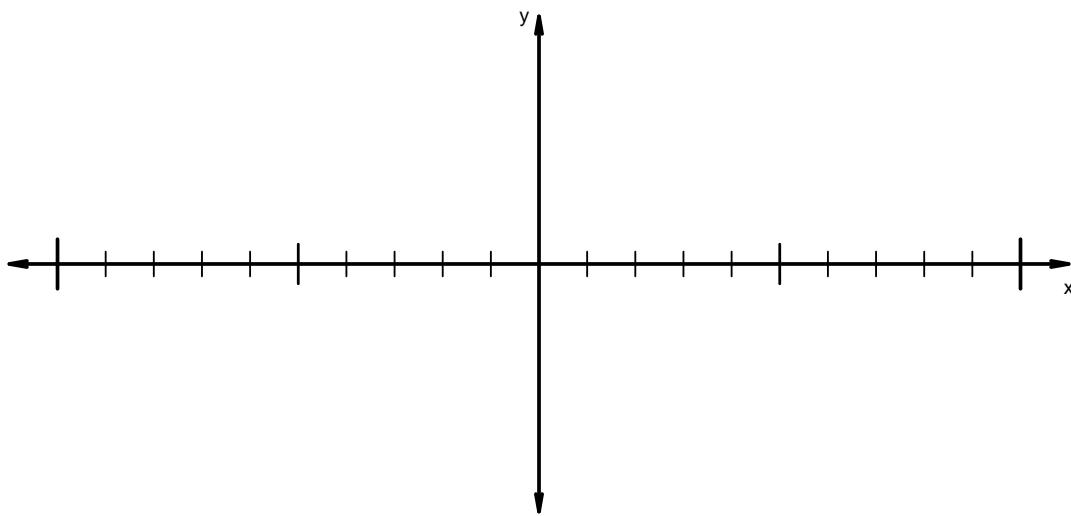
## Polynomial Factoring EXAM (version 635)

3. Write function  $f(x) = x^3 + 6x^2 + 3x - 10$  in factored form. I'll give you a hint: one factor is  $(x + 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4)^2 \cdot (x - 1) \cdot (x - 4)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 636)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 6x + 36 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $4 + 3i$  and  $-9 - 7i$  in standard form  $(a + bi)$ .

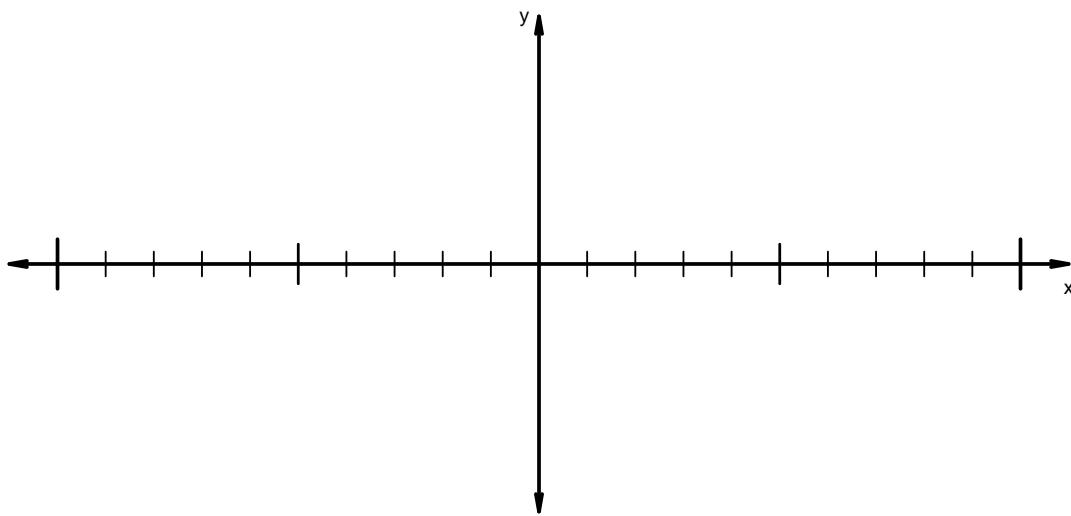
## Polynomial Factoring EXAM (version 636)

3. Write function  $f(x) = x^3 - 2x^2 - 23x + 60$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 6)^2 \cdot (x + 1)^2 \cdot (x - 2)^2 \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 637)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 22 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-6 + 5i$  and  $2 + 3i$  in standard form  $(a + bi)$ .

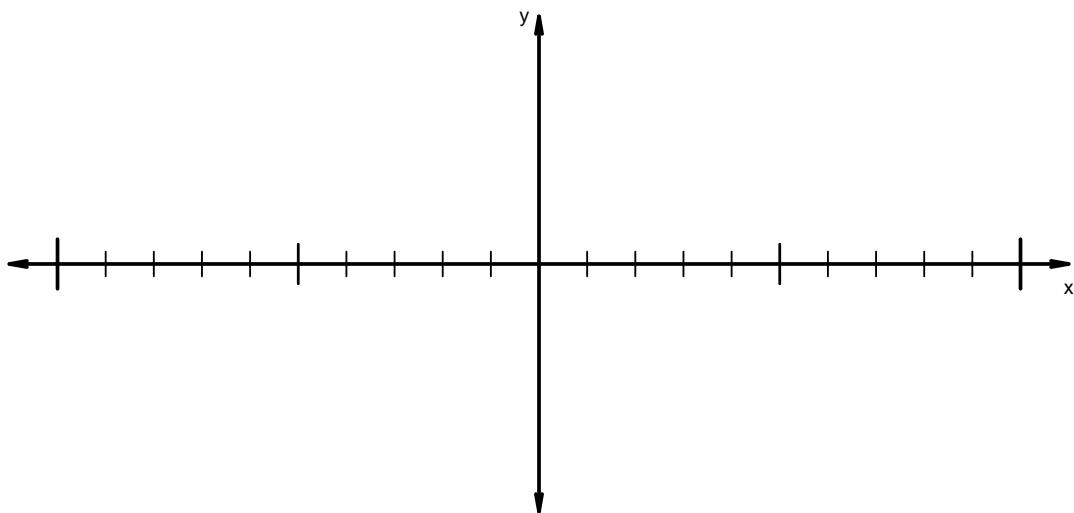
## Polynomial Factoring EXAM (version 637)

3. Write function  $f(x) = x^3 + 12x^2 + 44x + 48$  in factored form. I'll give you a hint: one factor is  $(x + 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 7)^2 \cdot (x + 3)^2 \cdot (x - 2) \cdot (x - 6)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 638)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 6x + 19 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $3 - 2i$  and  $7 - 9i$  in standard form  $(a + bi)$ .

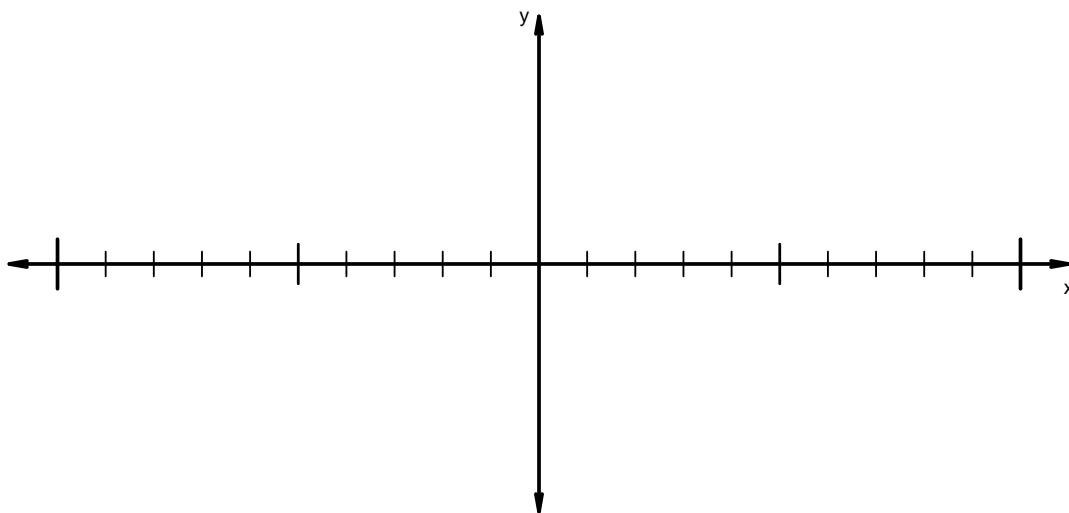
## Polynomial Factoring EXAM (version 638)

3. Write function  $f(x) = x^3 - x^2 - 24x - 36$  in factored form. I'll give you a hint: one factor is  $(x + 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 6)^2 \cdot (x + 3)^2 \cdot (x - 2)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 639)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 4x + 16 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-6 - 3i$  and  $9 + 5i$  in standard form  $(a + bi)$ .

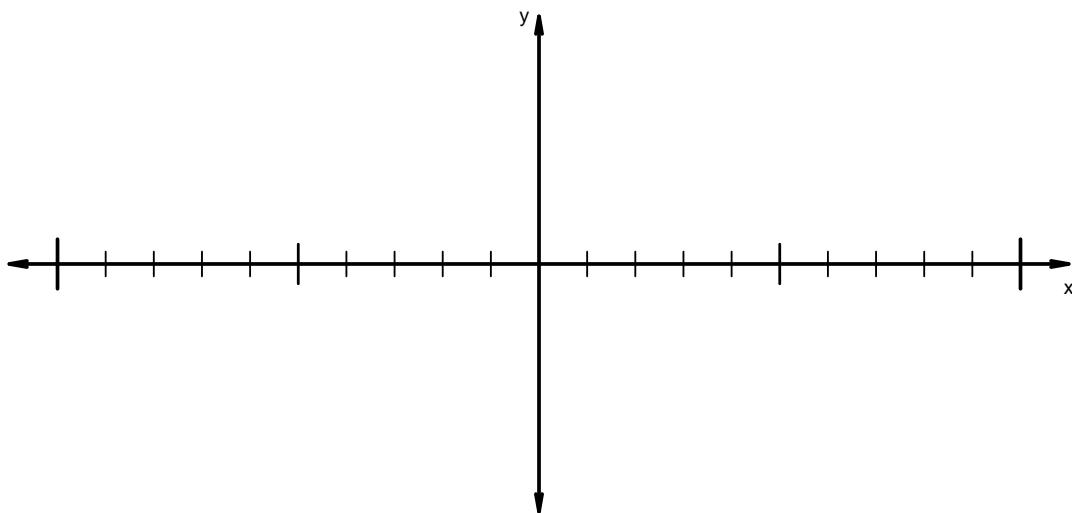
## Polynomial Factoring EXAM (version 639)

3. Write function  $f(x) = x^3 + 8x^2 + 17x + 10$  in factored form. I'll give you a hint: one factor is  $(x + 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 5)^2 \cdot (x + 1) \cdot (x - 2) \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 640)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 60 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 + 9i$  and  $4 - 2i$  in standard form  $(a + bi)$ .

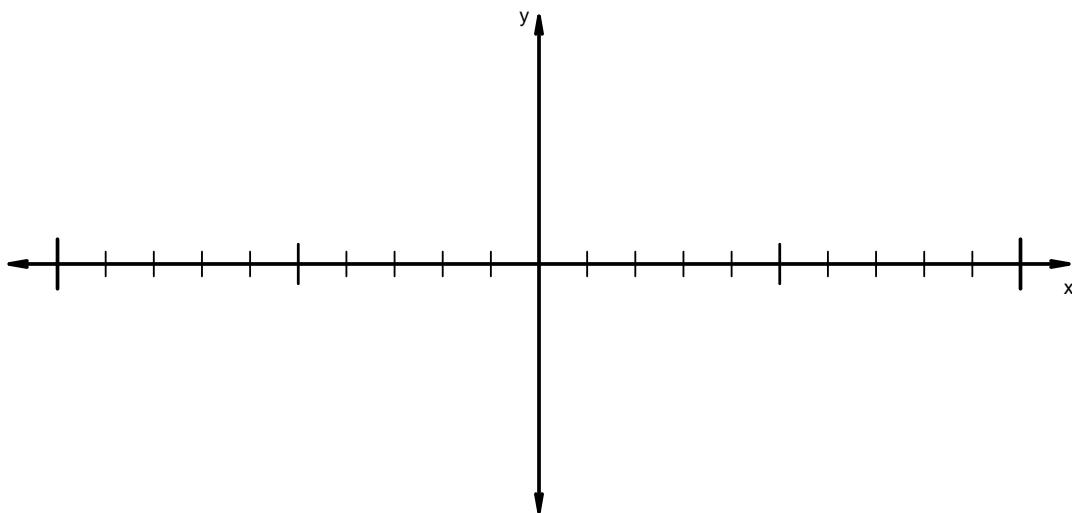
## Polynomial Factoring EXAM (version 640)

3. Write function  $f(x) = x^3 + x^2 - 32x - 60$  in factored form. I'll give you a hint: one factor is  $(x - 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 6)^2 \cdot (x + 2) \cdot (x - 1) \cdot (x - 6)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 641)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 6x + 23 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 + 3i$  and  $5 - 9i$  in standard form  $(a + bi)$ .

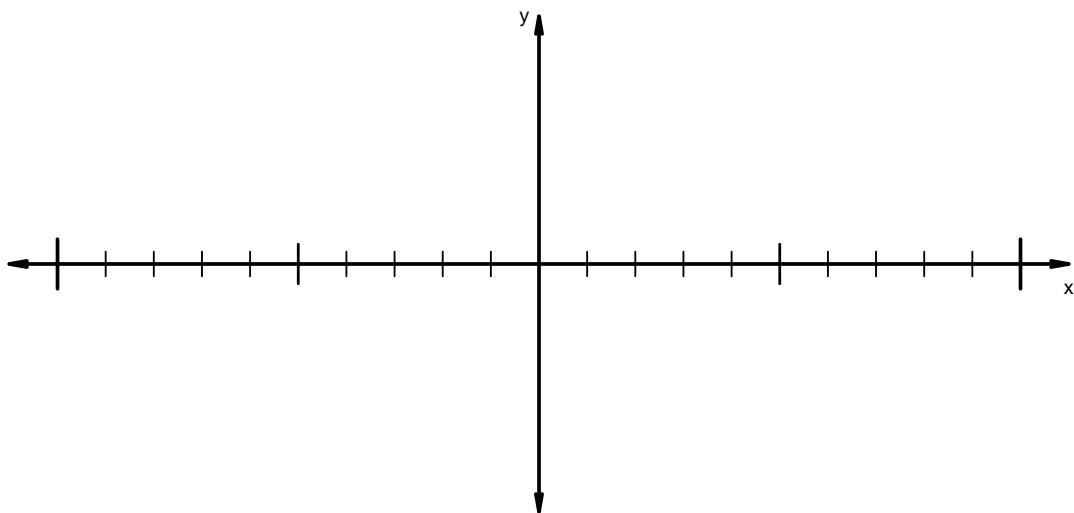
## Polynomial Factoring EXAM (version 641)

3. Write function  $f(x) = x^3 + 2x^2 - 21x + 18$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 8)^2 \cdot (x + 4)^2 \cdot (x - 1) \cdot (x - 4)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 642)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 4x + 24 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $4 - 3i$  and  $9 + 6i$  in standard form  $(a + bi)$ .

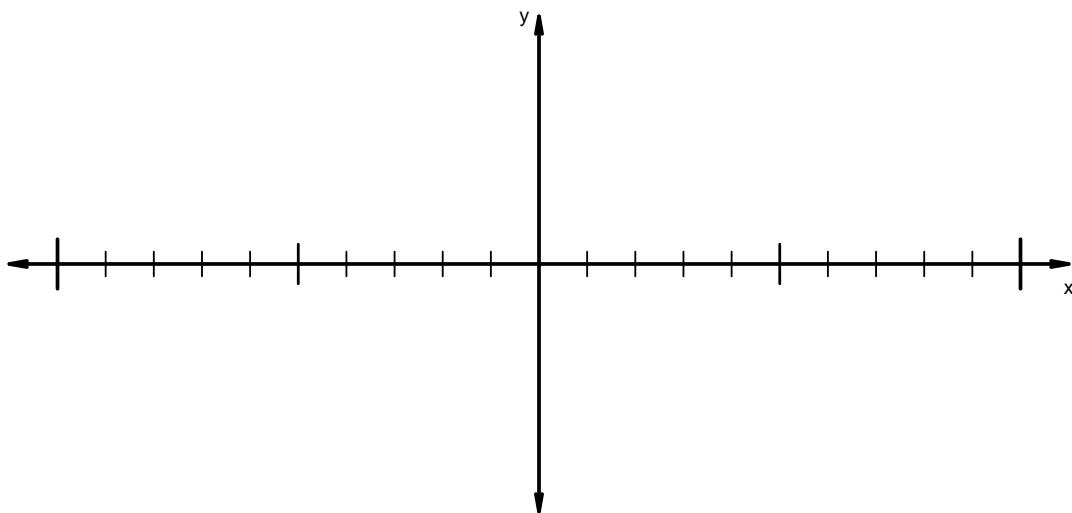
## Polynomial Factoring EXAM (version 642)

3. Write function  $f(x) = x^3 - 2x^2 - 11x + 12$  in factored form. I'll give you a hint: one factor is  $(x - 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 8) \cdot (x + 3)^2 \cdot (x - 1)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 643)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 6x + 21 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $8 + 3i$  and  $-2 + 4i$  in standard form  $(a + bi)$ .

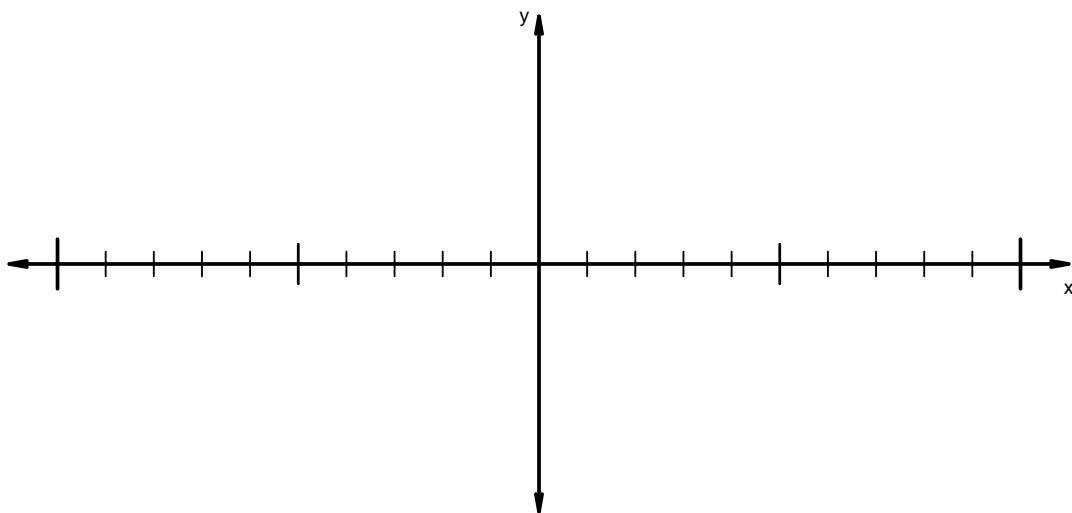
## Polynomial Factoring EXAM (version 643)

3. Write function  $f(x) = x^3 - 10x^2 + 31x - 30$  in factored form. I'll give you a hint: one factor is  $(x - 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 6) \cdot (x + 3) \cdot (x - 2)^2 \cdot (x - 6)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 644)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 33 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-5 - 9i$  and  $8 - 3i$  in standard form  $(a + bi)$ .

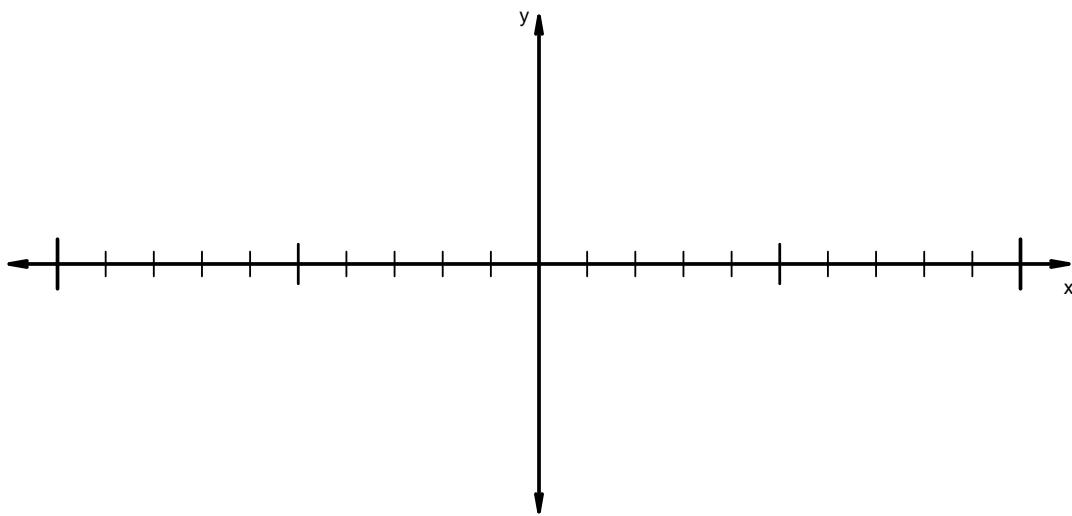
## Polynomial Factoring EXAM (version 644)

3. Write function  $f(x) = x^3 - 6x^2 + 11x - 6$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 8)^2 \cdot (x + 3)^2 \cdot (x - 1) \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 645)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 38 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-8 - 2i$  and  $5 - 3i$  in standard form  $(a + bi)$ .

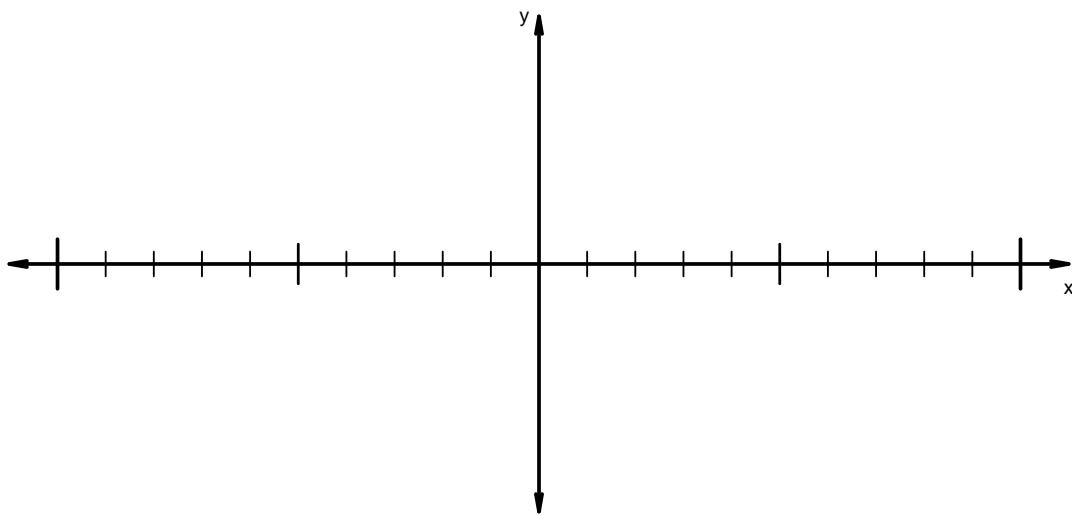
## Polynomial Factoring EXAM (version 645)

3. Write function  $f(x) = x^3 + 4x^2 - 27x - 90$  in factored form. I'll give you a hint: one factor is  $(x + 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 6)^2 \cdot (x + 2)^2 \cdot (x - 1)^2 \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 646)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 44 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 - 9i$  and  $-5 - 4i$  in standard form  $(a + bi)$ .

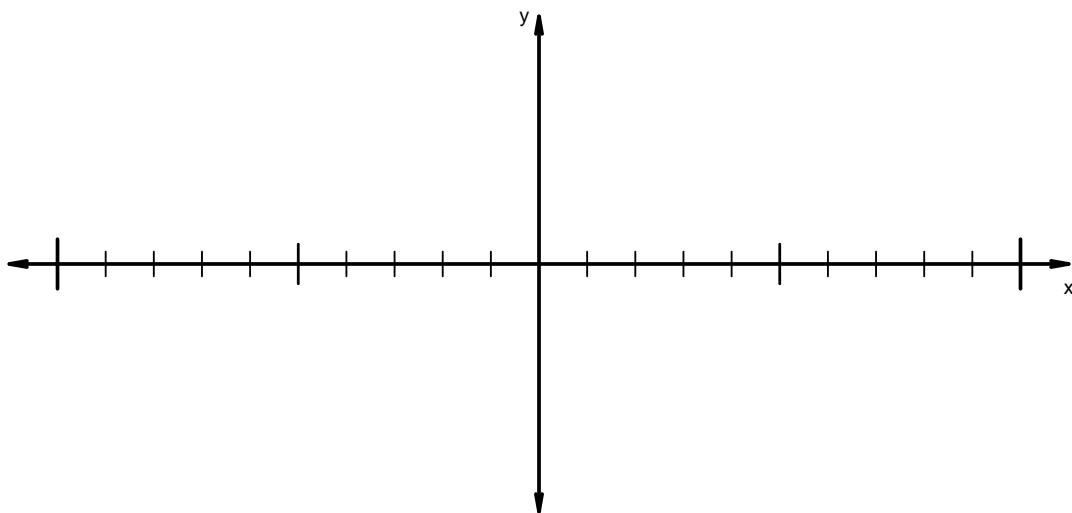
## Polynomial Factoring EXAM (version 646)

3. Write function  $f(x) = x^3 - 8x^2 - 3x + 90$  in factored form. I'll give you a hint: one factor is  $(x - 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 3) \cdot (x - 1)^2 \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 647)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 12x + 60 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-4 + 8i$  and  $-5 - 2i$  in standard form  $(a + bi)$ .

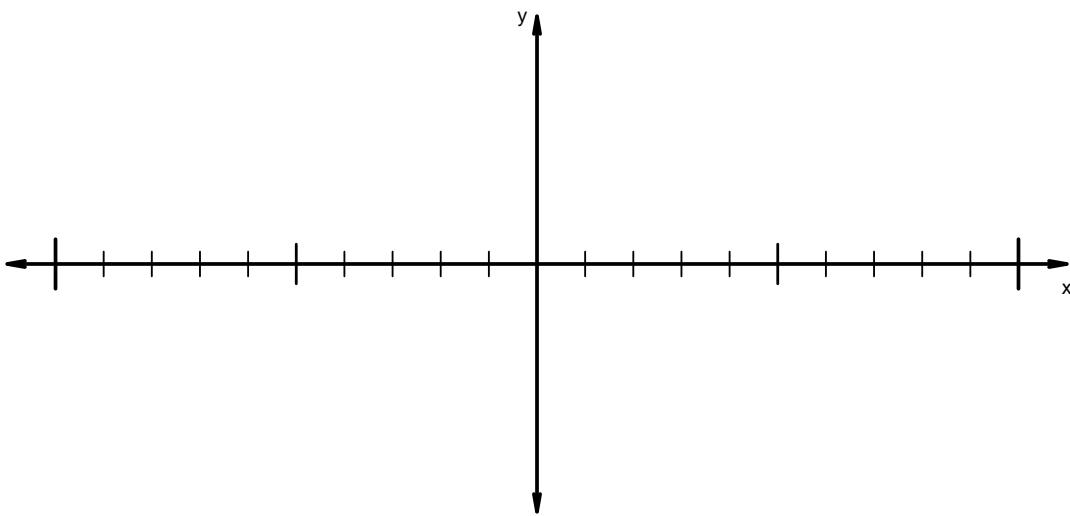
## Polynomial Factoring EXAM (version 647)

3. Write function  $f(x) = x^3 - 7x^2 + 4x + 12$  in factored form. I'll give you a hint: one factor is  $(x - 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 1) \cdot (x - 2)^2 \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 648)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 2x + 13 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $3 - 4i$  and  $5 + 6i$  in standard form  $(a + bi)$ .

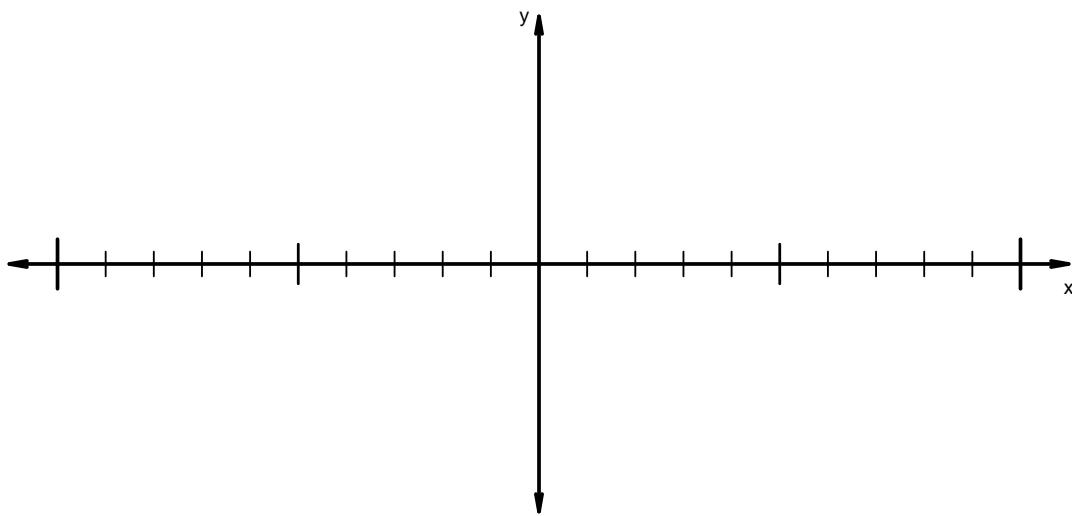
## Polynomial Factoring EXAM (version 648)

3. Write function  $f(x) = x^3 + 4x^2 - 11x - 30$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 5) \cdot (x + 2) \cdot (x - 3)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 649)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 54 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-5 - 7i$  and  $-3 - 4i$  in standard form  $(a + bi)$ .

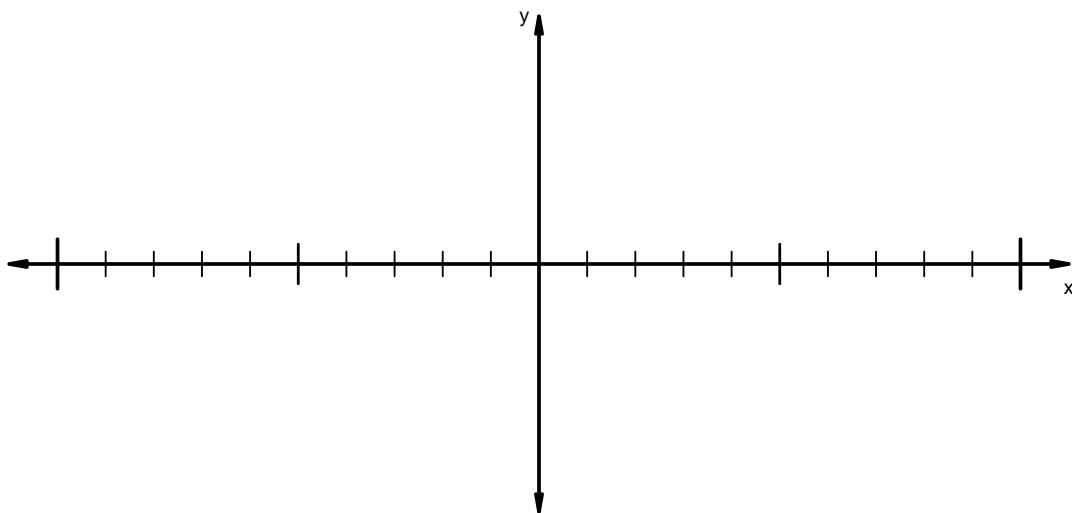
## Polynomial Factoring EXAM (version 649)

3. Write function  $f(x) = x^3 - 3x^2 - 10x + 24$  in factored form. I'll give you a hint: one factor is  $(x - 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4)^2 \cdot (x + 1)^2 \cdot (x - 2) \cdot (x - 6)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 650)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 36 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 - 8i$  and  $-7 - 5i$  in standard form  $(a + bi)$ .

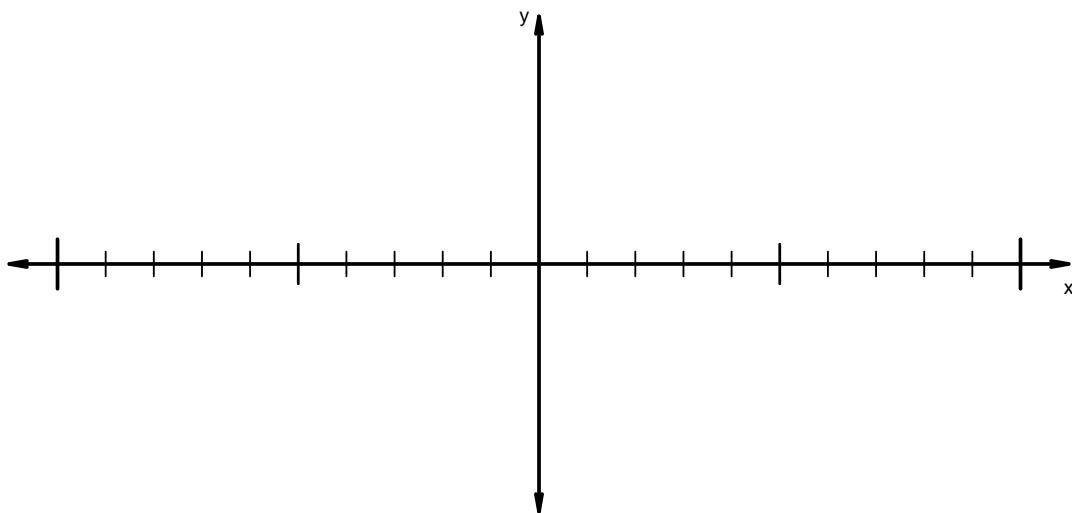
## Polynomial Factoring EXAM (version 650)

3. Write function  $f(x) = x^3 + 2x^2 - 21x + 18$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 1)^2 \cdot (x - 3) \cdot (x - 8)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 651)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 43 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-8 + 4i$  and  $-3 - 6i$  in standard form  $(a + bi)$ .

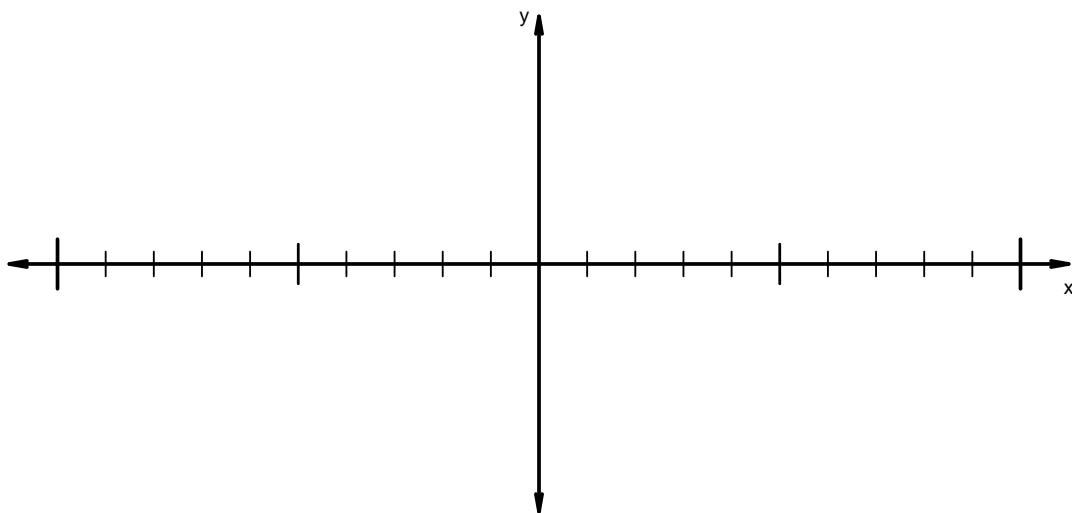
## Polynomial Factoring EXAM (version 651)

3. Write function  $f(x) = x^3 + 7x^2 + 7x - 15$  in factored form. I'll give you a hint: one factor is  $(x + 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4)^2 \cdot (x - 1) \cdot (x - 4)^2 \cdot (x - 8)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 652)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 6x + 11 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $8 - 7i$  and  $-2 - 6i$  in standard form  $(a + bi)$ .

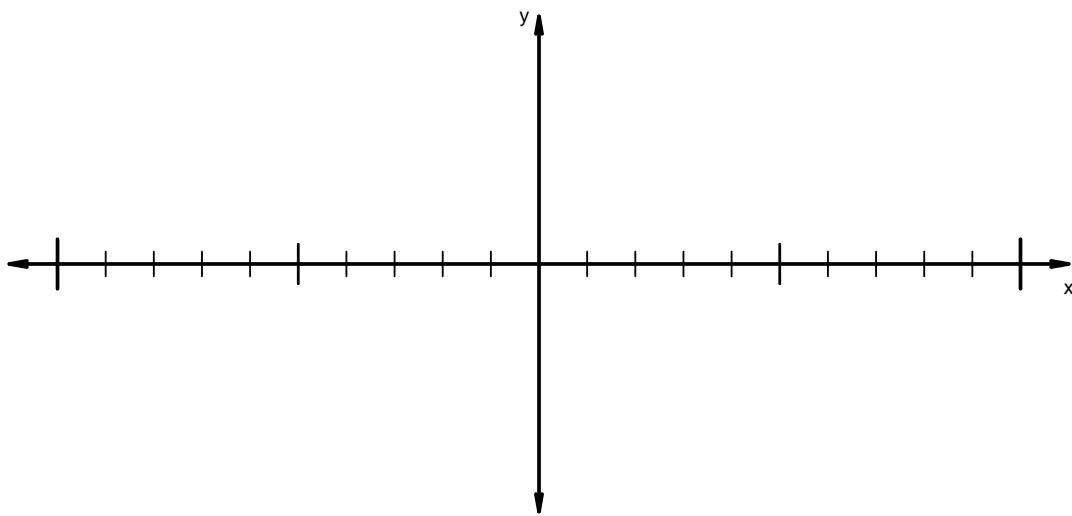
## Polynomial Factoring EXAM (version 652)

3. Write function  $f(x) = x^3 - 5x^2 - 12x + 36$  in factored form. I'll give you a hint: one factor is  $(x - 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 2)^2 \cdot (x - 1)^2 \cdot (x - 4)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 653)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 42 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $7 - 5i$  and  $-2 - 9i$  in standard form  $(a + bi)$ .

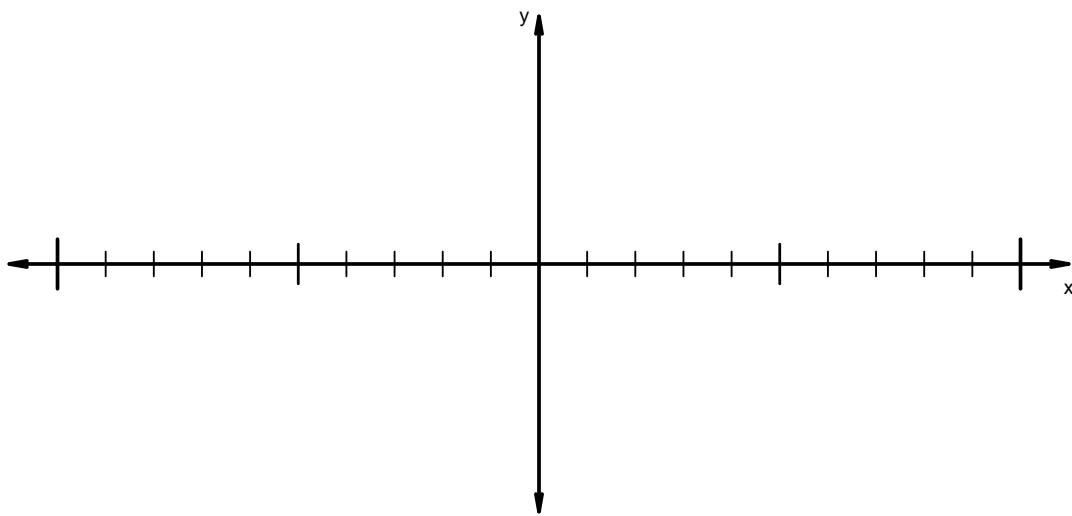
## Polynomial Factoring EXAM (version 653)

3. Write function  $f(x) = x^3 + 12x^2 + 47x + 60$  in factored form. I'll give you a hint: one factor is  $(x + 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 4)^2 \cdot (x - 1) \cdot (x - 5) \cdot (x - 8)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 654)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 44 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $5 - 3i$  and  $-9 - 2i$  in standard form  $(a + bi)$ .

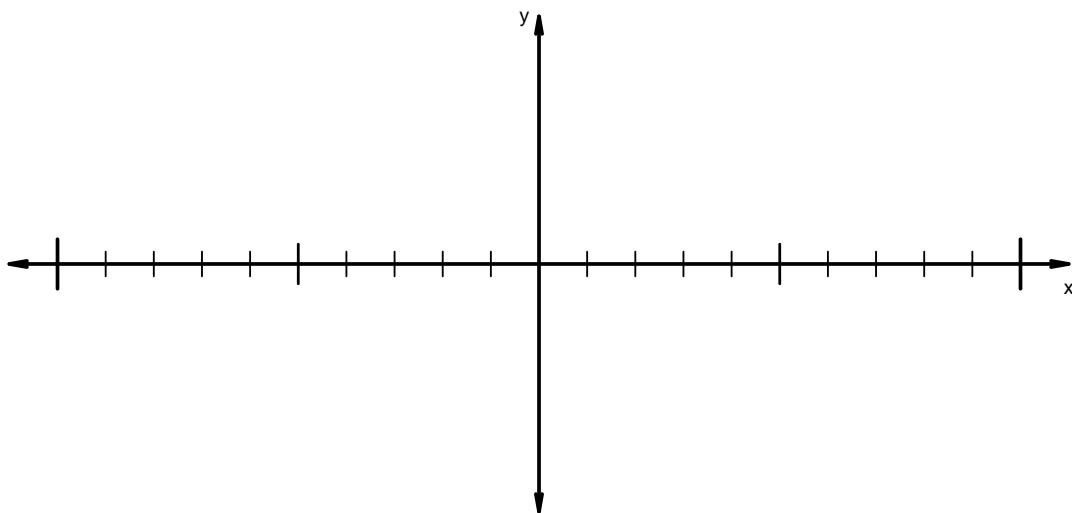
## Polynomial Factoring EXAM (version 654)

3. Write function  $f(x) = x^3 + 12x^2 + 47x + 60$  in factored form. I'll give you a hint: one factor is  $(x + 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 4) \cdot (x - 1)^2 \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 655)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 35 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 - 5i$  and  $4 + 6i$  in standard form  $(a + bi)$ .

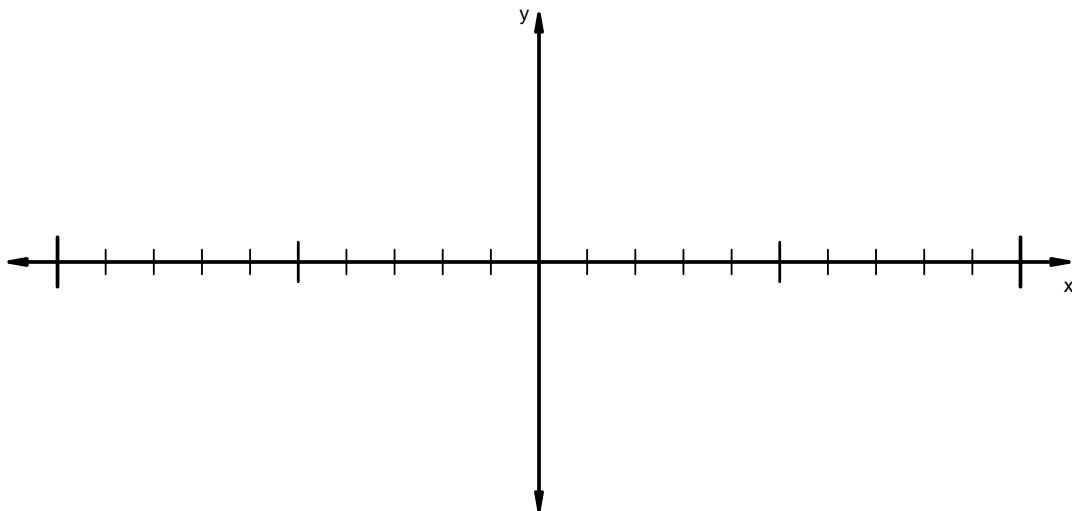
## Polynomial Factoring EXAM (version 655)

3. Write function  $f(x) = x^3 - 3x^2 - 28x + 60$  in factored form. I'll give you a hint: one factor is  $(x - 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 5)^2 \cdot (x + 1)^2 \cdot (x - 2) \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 656)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 6x + 21 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-2 + 6i$  and  $7 + 5i$  in standard form  $(a + bi)$ .

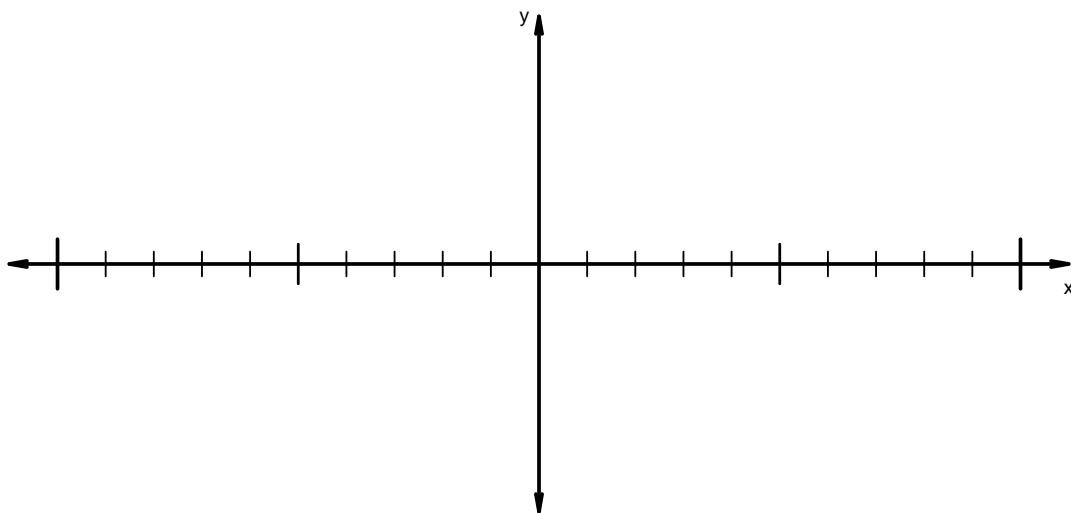
## Polynomial Factoring EXAM (version 656)

3. Write function  $f(x) = x^3 - 9x^2 + 20x - 12$  in factored form. I'll give you a hint: one factor is  $(x - 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 8)^2 \cdot (x + 5)^2 \cdot (x + 1) \cdot (x - 2)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 657)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 12x + 47 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-8 - 9i$  and  $-3 - 2i$  in standard form  $(a + bi)$ .

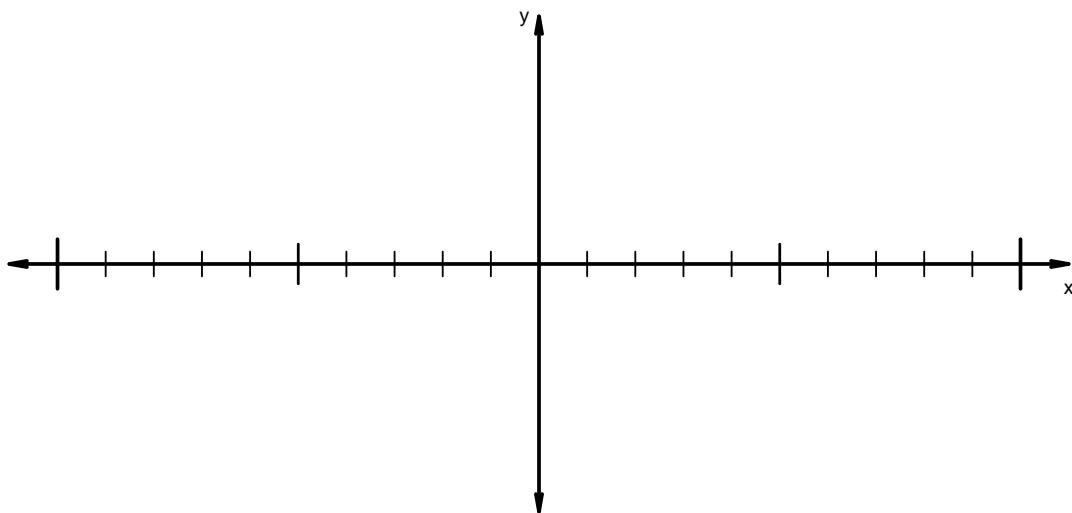
## Polynomial Factoring EXAM (version 657)

3. Write function  $f(x) = x^3 - 6x^2 - 4x + 24$  in factored form. I'll give you a hint: one factor is  $(x - 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 2)^2 \cdot (x - 2) \cdot (x - 5)^2 \cdot (x - 8)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 658)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 2x + 29 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-5 - 9i$  and  $2 - 7i$  in standard form  $(a + bi)$ .

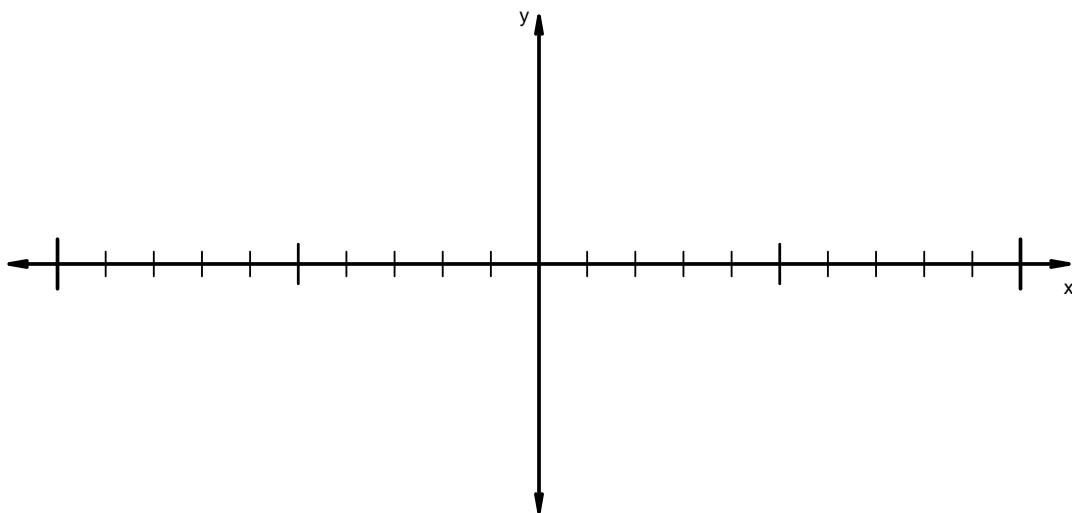
## Polynomial Factoring EXAM (version 658)

3. Write function  $f(x) = x^3 + 2x^2 - 13x + 10$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 8)^2 \cdot (x + 5)^2 \cdot (x + 1) \cdot (x - 3)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 659)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 31 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-3 + 8i$  and  $4 - 7i$  in standard form  $(a + bi)$ .

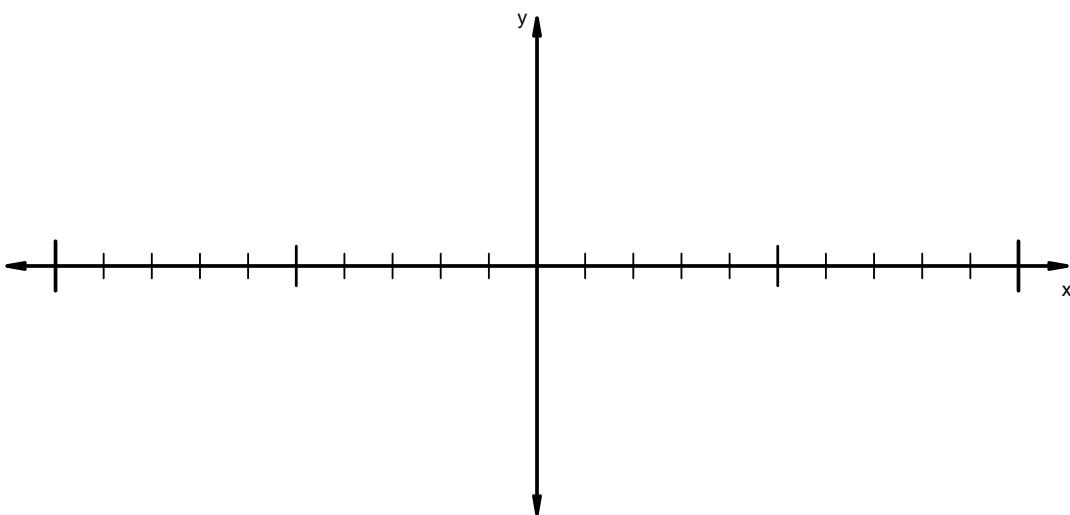
## Polynomial Factoring EXAM (version 659)

3. Write function  $f(x) = x^3 + x^2 - 14x - 24$  in factored form. I'll give you a hint: one factor is  $(x + 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 2) \cdot (x - 1)^2 \cdot (x - 4)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 660)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 4x + 31 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-2 + 8i$  and  $-7 - 5i$  in standard form  $(a + bi)$ .

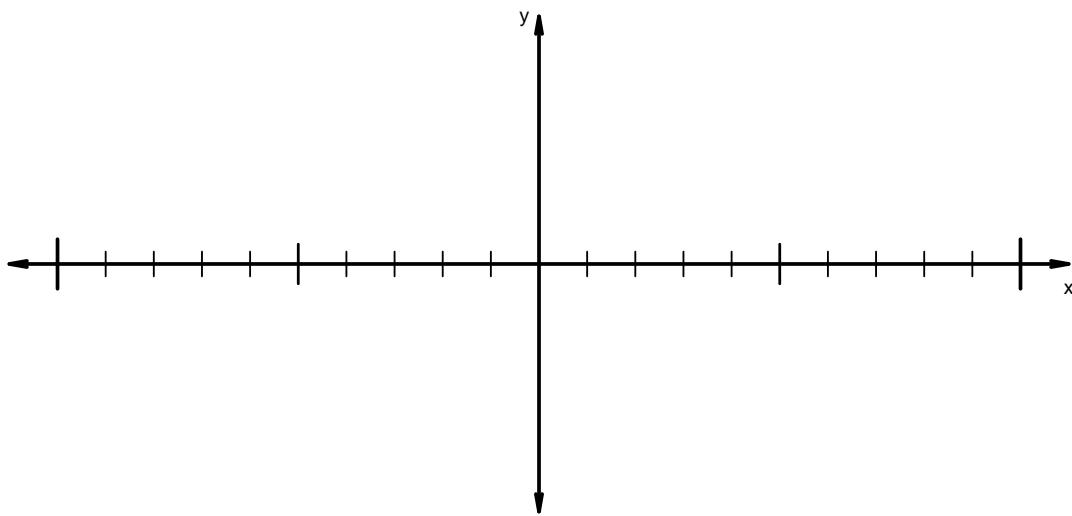
## Polynomial Factoring EXAM (version 660)

3. Write function  $f(x) = x^3 + 7x^2 + 4x - 12$  in factored form. I'll give you a hint: one factor is  $(x + 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4)^2 \cdot (x + 1)^2 \cdot (x - 2)^2 \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 661)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 24 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-7 - 6i$  and  $-8 - 3i$  in standard form  $(a + bi)$ .

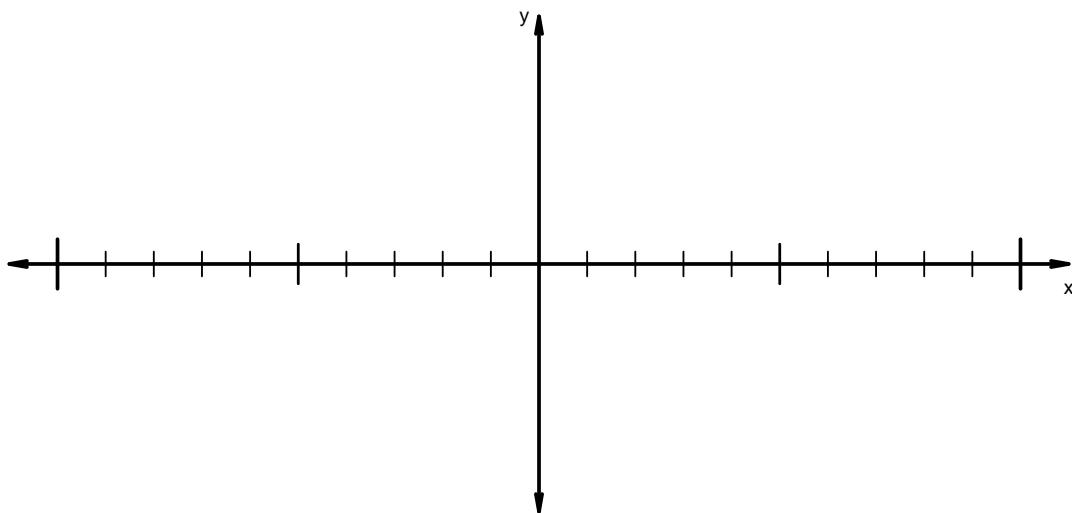
## Polynomial Factoring EXAM (version 661)

3. Write function  $f(x) = x^3 + 2x^2 - 21x + 18$  in factored form. I'll give you a hint: one factor is  $(x + 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7)^2 \cdot (x + 3) \cdot (x - 1)^2 \cdot (x - 4)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 662)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 60 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-6 - 5i$  and  $-3 + 9i$  in standard form  $(a + bi)$ .

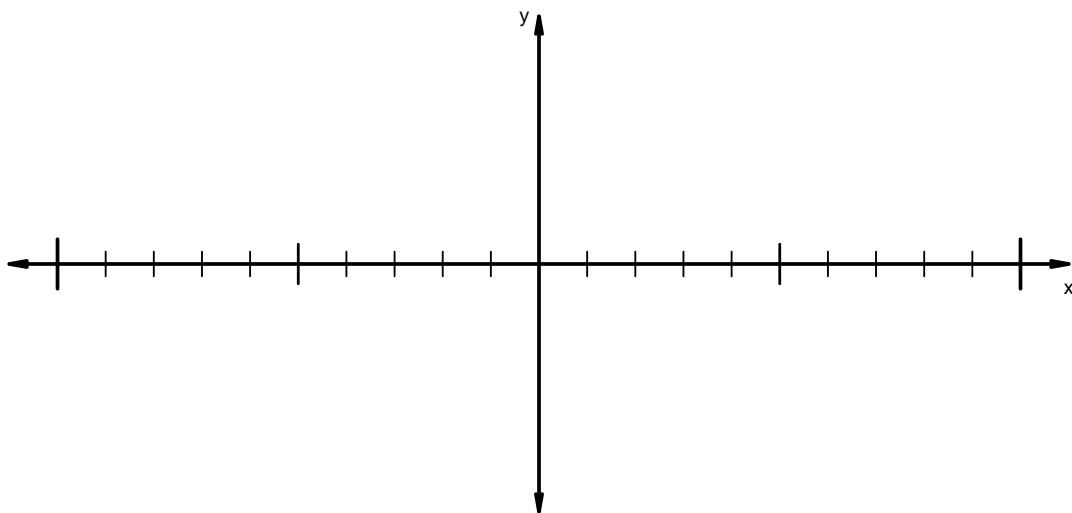
## Polynomial Factoring EXAM (version 662)

3. Write function  $f(x) = x^3 + 5x^2 + 2x - 8$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 8) \cdot (x + 5)^2 \cdot (x + 2)^2 \cdot (x - 1)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 663)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 30 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $8 - 4i$  and  $-5 + 3i$  in standard form  $(a + bi)$ .

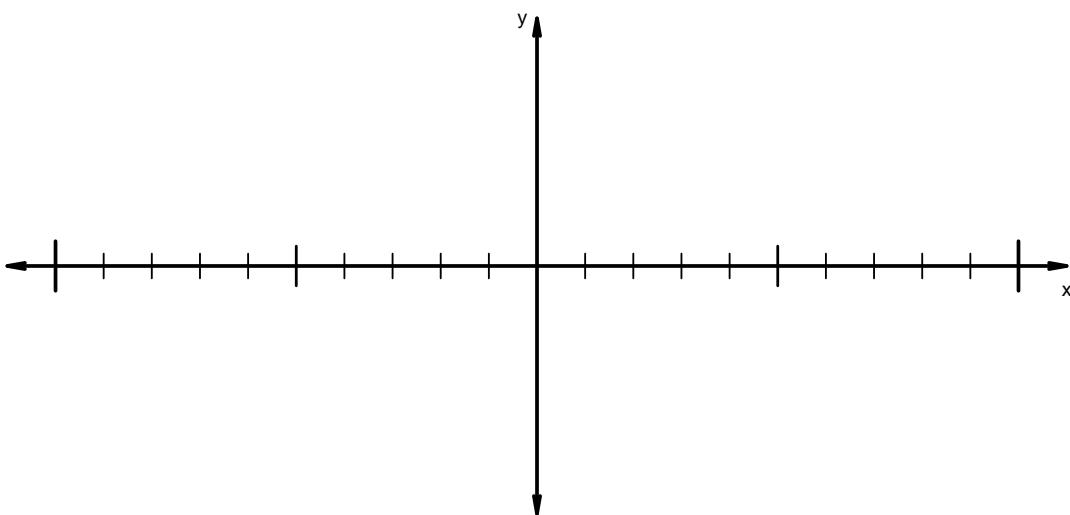
## Polynomial Factoring EXAM (version 663)

3. Write function  $f(x) = x^3 - 7x^2 + 14x - 8$  in factored form. I'll give you a hint: one factor is  $(x - 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 2)^2 \cdot (x - 3) \cdot (x - 6)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 664)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 2x + 25 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 - 5i$  and  $-8 - 3i$  in standard form  $(a + bi)$ .

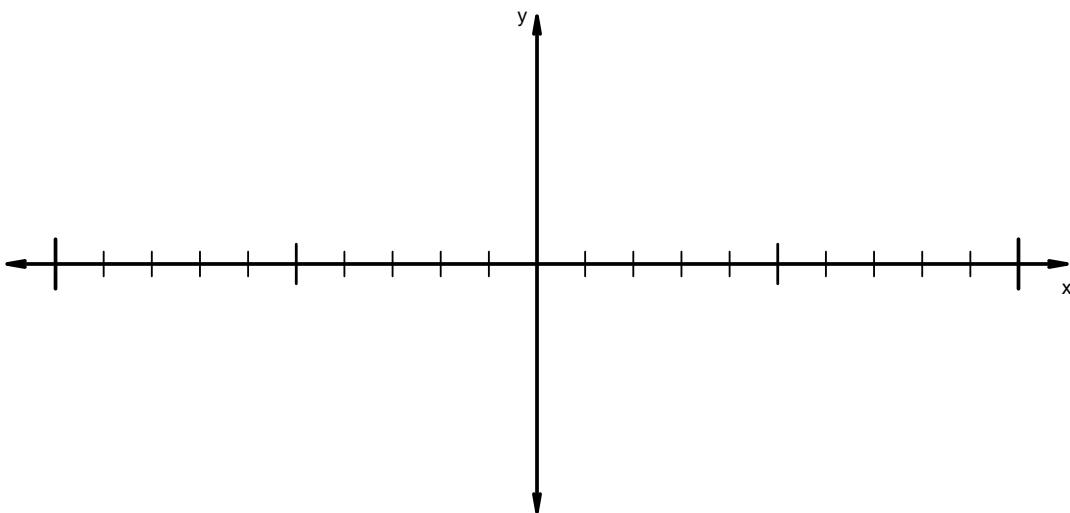
## Polynomial Factoring EXAM (version 664)

3. Write function  $f(x) = x^3 + 3x^2 - 36x - 108$  in factored form. I'll give you a hint: one factor is  $(x - 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 5) \cdot (x + 1)^2 \cdot (x - 4)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 665)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 12x + 54 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 - 4i$  and  $9 - 7i$  in standard form  $(a + bi)$ .

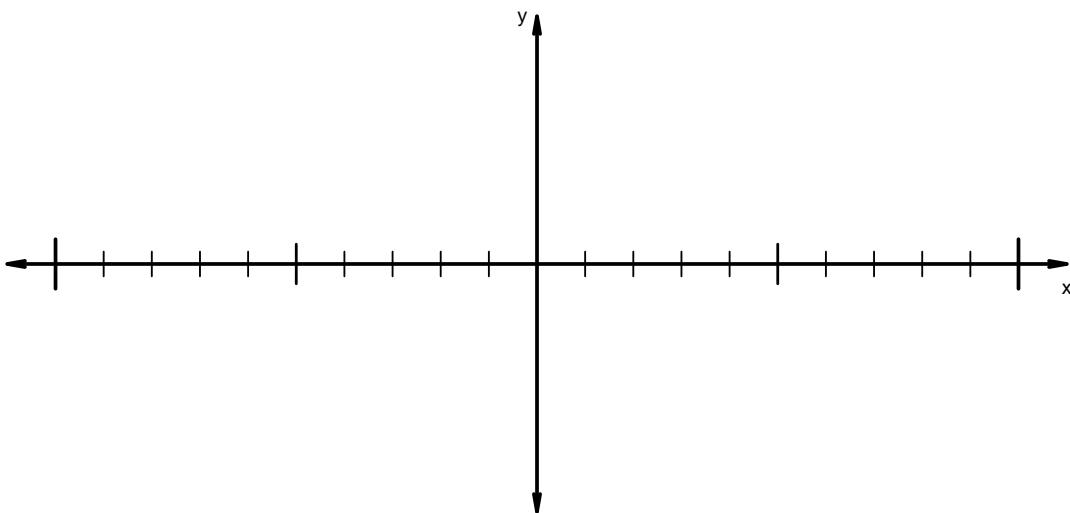
## Polynomial Factoring EXAM (version 665)

3. Write function  $f(x) = x^3 - 5x^2 - 12x + 36$  in factored form. I'll give you a hint: one factor is  $(x - 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 3)^2 \cdot (x - 1) \cdot (x - 6)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 666)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 6x + 27 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-3 + 4i$  and  $-6 + 7i$  in standard form  $(a + bi)$ .

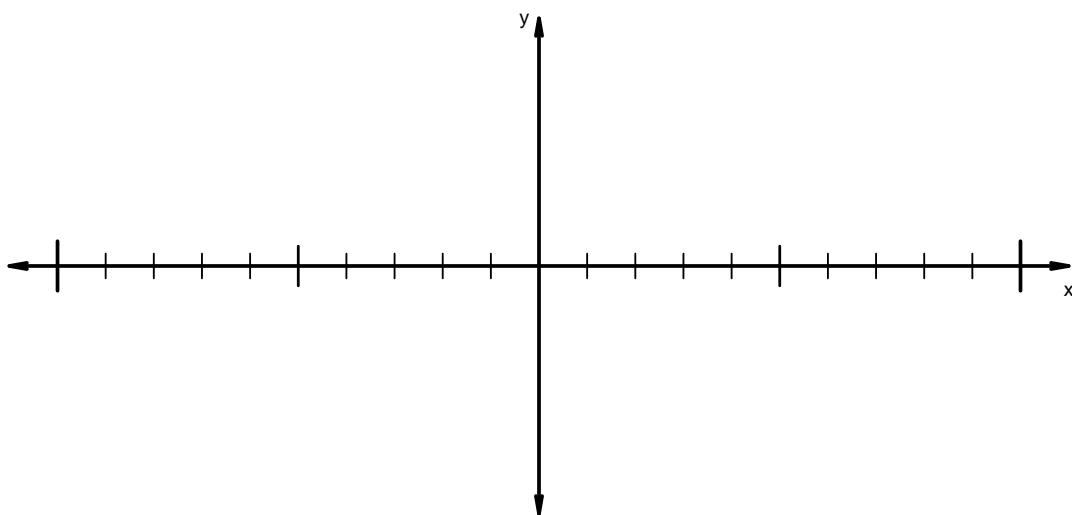
## Polynomial Factoring EXAM (version 666)

3. Write function  $f(x) = x^3 + 2x^2 - 13x + 10$  in factored form. I'll give you a hint: one factor is  $(x - 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 1)^2 \cdot (x - 2)^2 \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 667)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 2x + 13 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-9 + 2i$  and  $-8 - 3i$  in standard form  $(a + bi)$ .

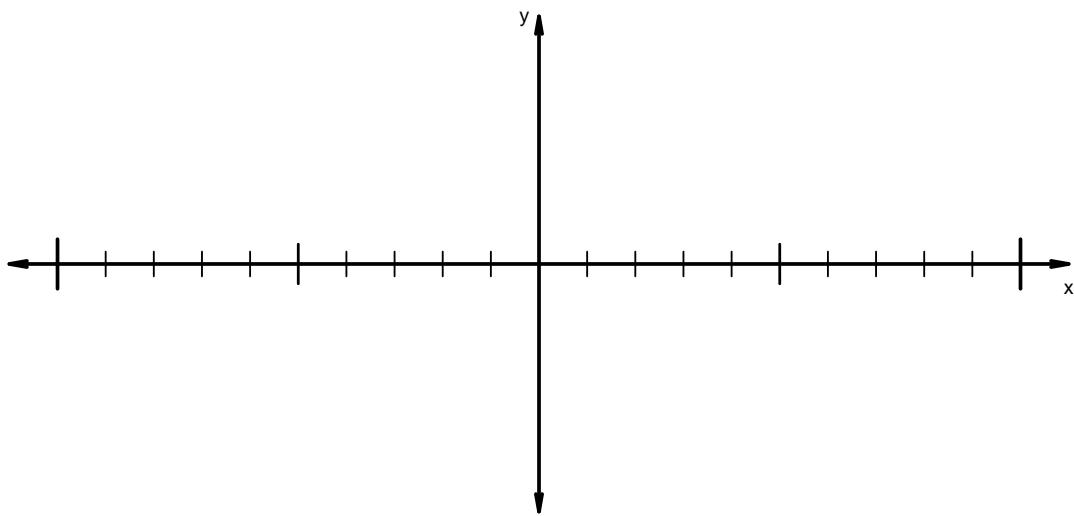
## Polynomial Factoring EXAM (version 667)

3. Write function  $f(x) = x^3 - 10x^2 + 19x + 30$  in factored form. I'll give you a hint: one factor is  $(x + 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7)^2 \cdot (x + 4)^2 \cdot (x - 1) \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 668)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 10x + 37 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 - 8i$  and  $7 + 6i$  in standard form  $(a + bi)$ .

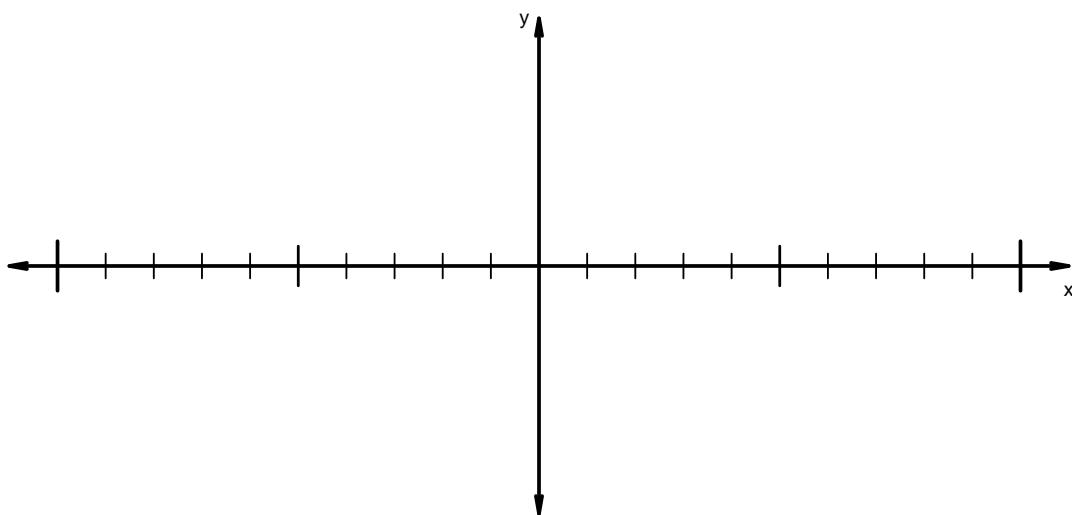
## Polynomial Factoring EXAM (version 668)

3. Write function  $f(x) = x^3 - 3x^2 - 13x + 15$  in factored form. I'll give you a hint: one factor is  $(x + 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 3)^2 \cdot (x - 2) \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 669)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 2x + 28 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 - 5i$  and  $9 + 3i$  in standard form  $(a + bi)$ .

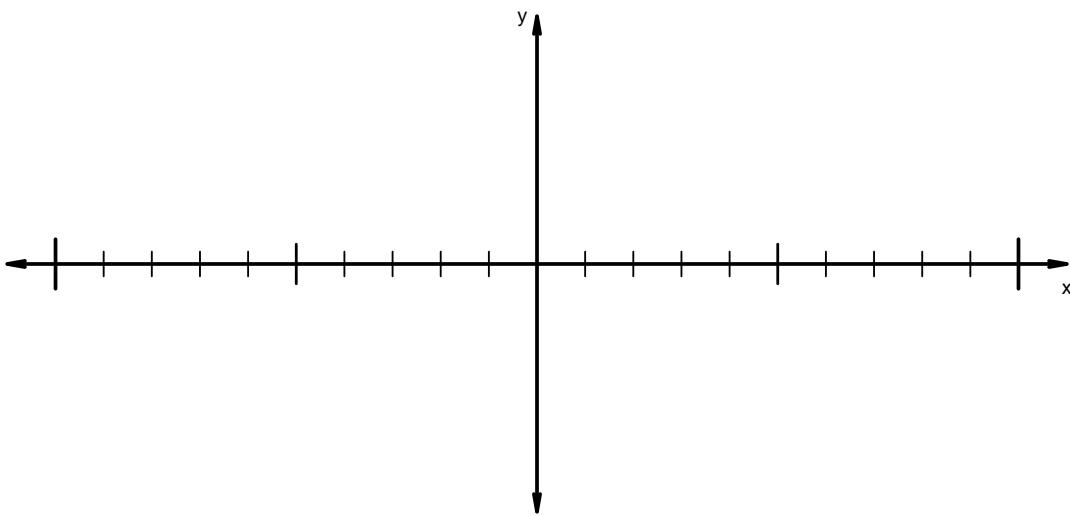
## Polynomial Factoring EXAM (version 669)

3. Write function  $f(x) = x^3 + 10x^2 + 19x - 30$  in factored form. I'll give you a hint: one factor is  $(x + 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 3) \cdot (x - 1)^2 \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 670)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 2x + 21 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-6 + 4i$  and  $-9 - 3i$  in standard form  $(a + bi)$ .

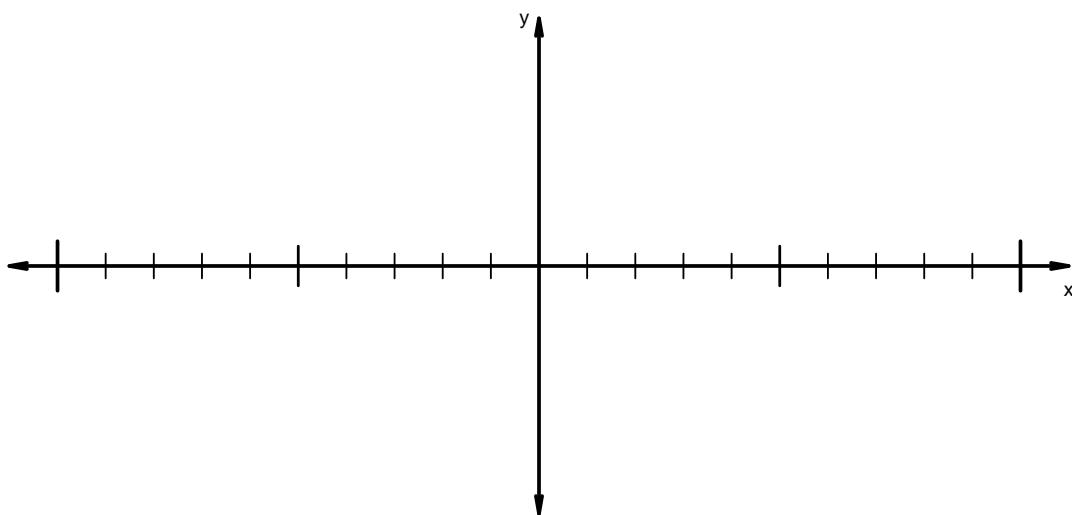
## Polynomial Factoring EXAM (version 670)

3. Write function  $f(x) = x^3 + 6x^2 + 11x + 6$  in factored form. I'll give you a hint: one factor is  $(x + 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 3)^2 \cdot (x - 1) \cdot (x - 4)^2 \cdot (x - 8)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 671)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 6x + 27 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-2 - 7i$  and  $-8 - 9i$  in standard form  $(a + bi)$ .

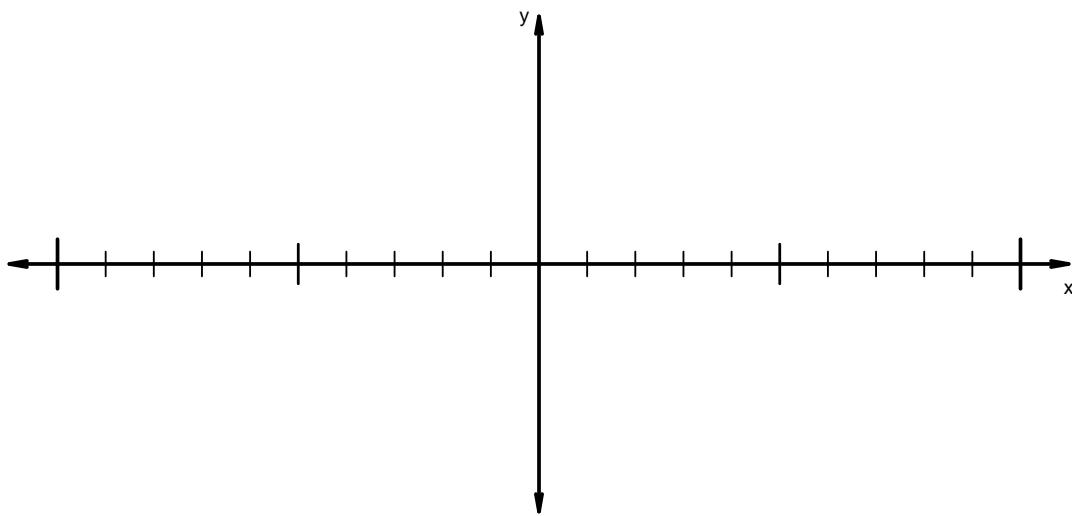
## Polynomial Factoring EXAM (version 671)

3. Write function  $f(x) = x^3 - 3x^2 - 16x - 12$  in factored form. I'll give you a hint: one factor is  $(x + 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 8) \cdot (x + 4) \cdot (x + 1)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 672)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 2x + 13 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-9 - 8i$  and  $5 - 2i$  in standard form  $(a + bi)$ .

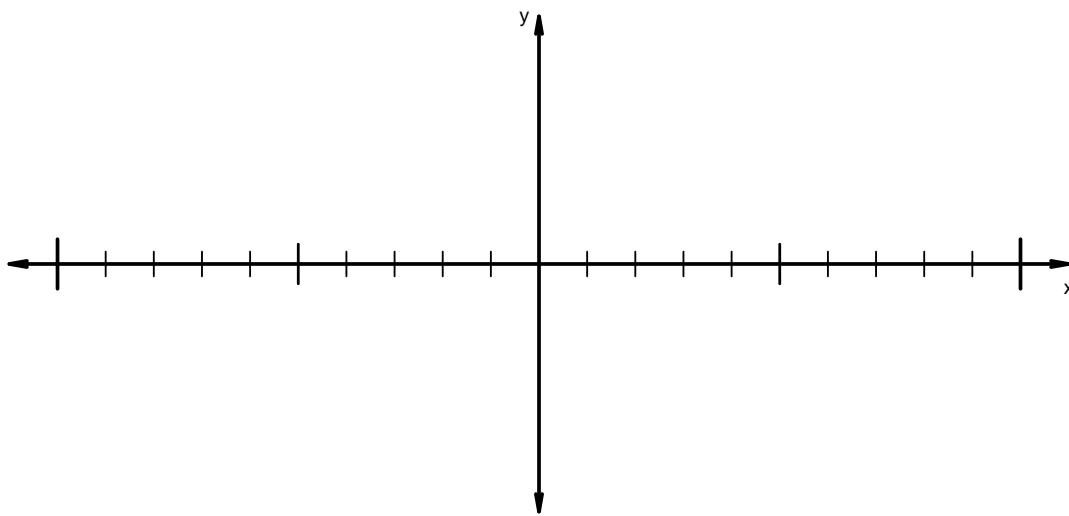
## Polynomial Factoring EXAM (version 672)

3. Write function  $f(x) = x^3 + 8x^2 + 9x - 18$  in factored form. I'll give you a hint: one factor is  $(x + 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 7) \cdot (x + 2)^2 \cdot (x - 2)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 673)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 24 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $7 - 4i$  and  $2 - 3i$  in standard form  $(a + bi)$ .

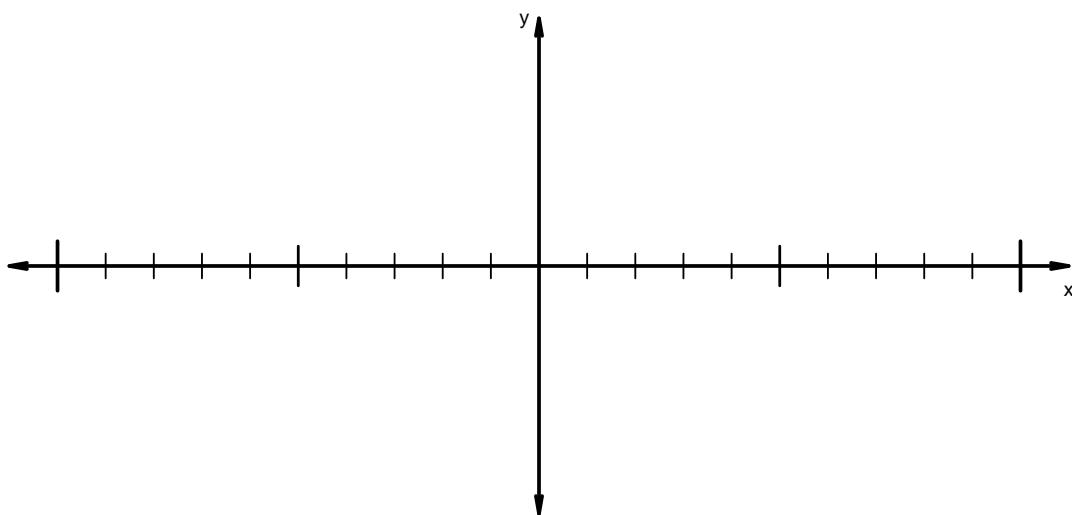
## Polynomial Factoring EXAM (version 673)

3. Write function  $f(x) = x^3 + 12x^2 + 47x + 60$  in factored form. I'll give you a hint: one factor is  $(x + 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 8) \cdot (x + 4)^2 \cdot (x - 1)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 674)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 12x + 44 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $8 + 7i$  and  $-9 - 2i$  in standard form  $(a + bi)$ .

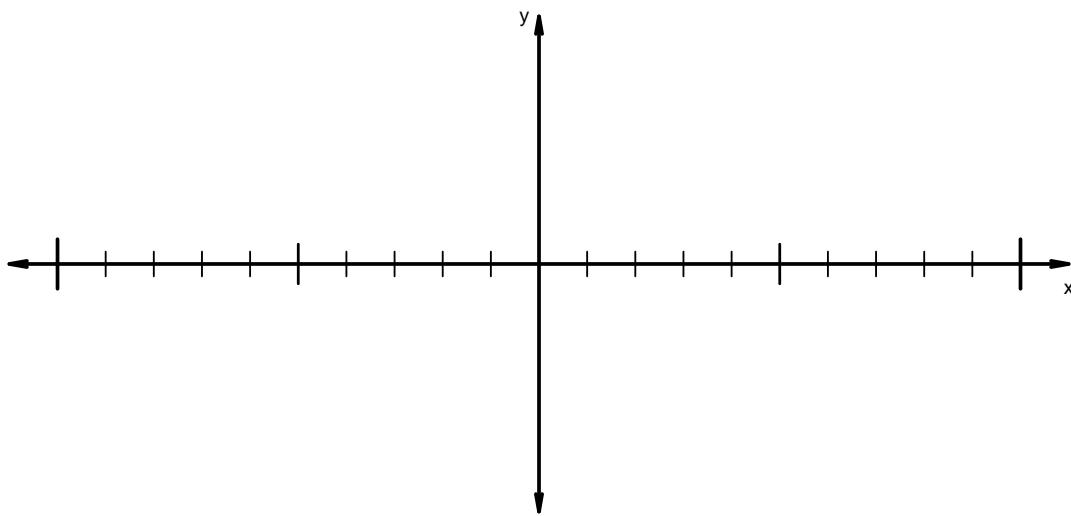
## Polynomial Factoring EXAM (version 674)

3. Write function  $f(x) = x^3 - x^2 - 26x - 24$  in factored form. I'll give you a hint: one factor is  $(x + 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 4)^2 \cdot (x + 1) \cdot (x - 2)^2 \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 675)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 10x + 52 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $2 + 3i$  and  $7 + 4i$  in standard form  $(a + bi)$ .

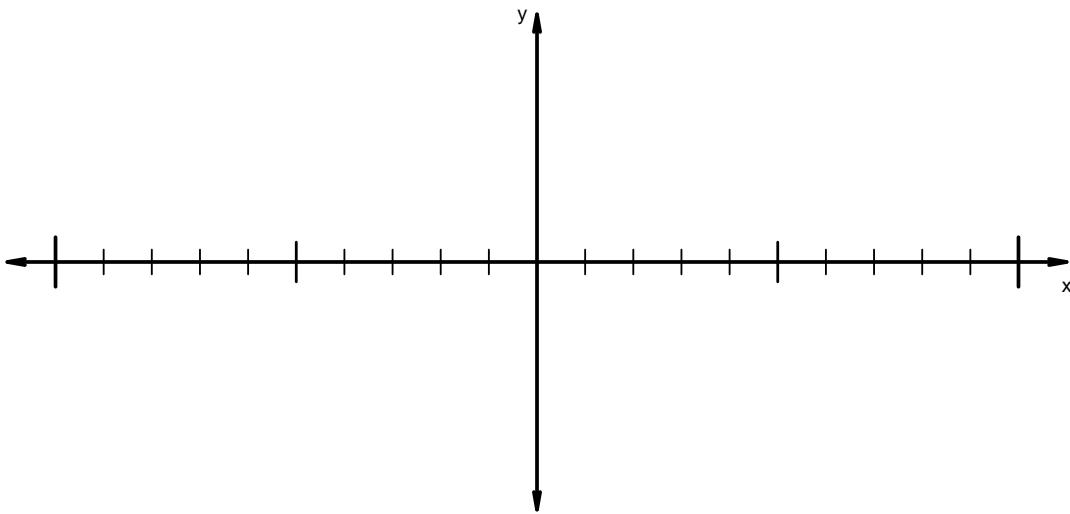
## Polynomial Factoring EXAM (version 675)

3. Write function  $f(x) = x^3 - 3x^2 - 22x + 24$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 6) \cdot (x + 1)^2 \cdot (x - 3)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 676)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 6x + 36 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-7 + 9i$  and  $5 + 4i$  in standard form  $(a + bi)$ .

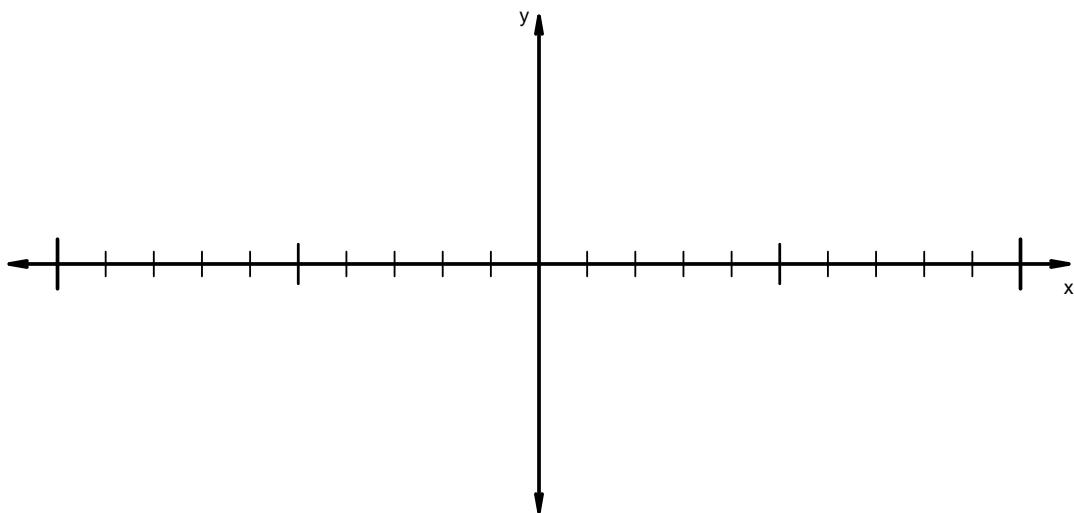
## Polynomial Factoring EXAM (version 676)

3. Write function  $f(x) = x^3 - 11x^2 + 38x - 40$  in factored form. I'll give you a hint: one factor is  $(x - 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7)^2 \cdot (x + 4)^2 \cdot (x + 1) \cdot (x - 3)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 677)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 28 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-3 - 9i$  and  $6 + 8i$  in standard form  $(a + bi)$ .

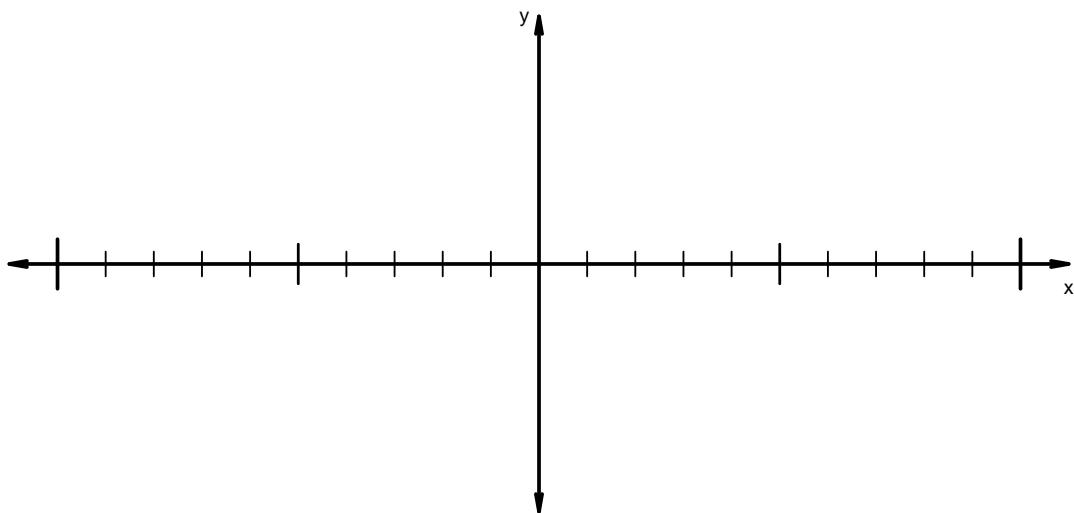
## Polynomial Factoring EXAM (version 677)

3. Write function  $f(x) = x^3 + 2x^2 - 13x + 10$  in factored form. I'll give you a hint: one factor is  $(x + 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7)^2 \cdot (x + 3) \cdot (x - 1)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 678)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 6x + 33 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 + 2i$  and  $7 + 4i$  in standard form  $(a + bi)$ .

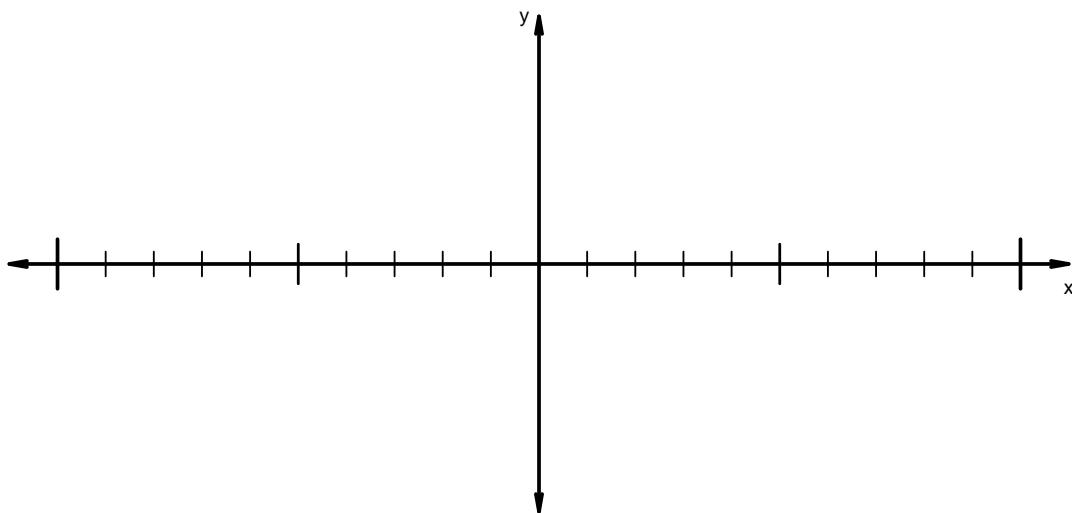
## Polynomial Factoring EXAM (version 678)

3. Write function  $f(x) = x^3 + 7x^2 - 6x - 72$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 1)^2 \cdot (x - 4) \cdot (x - 7)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 679)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 31 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-9 + 4i$  and  $-6 + 2i$  in standard form  $(a + bi)$ .

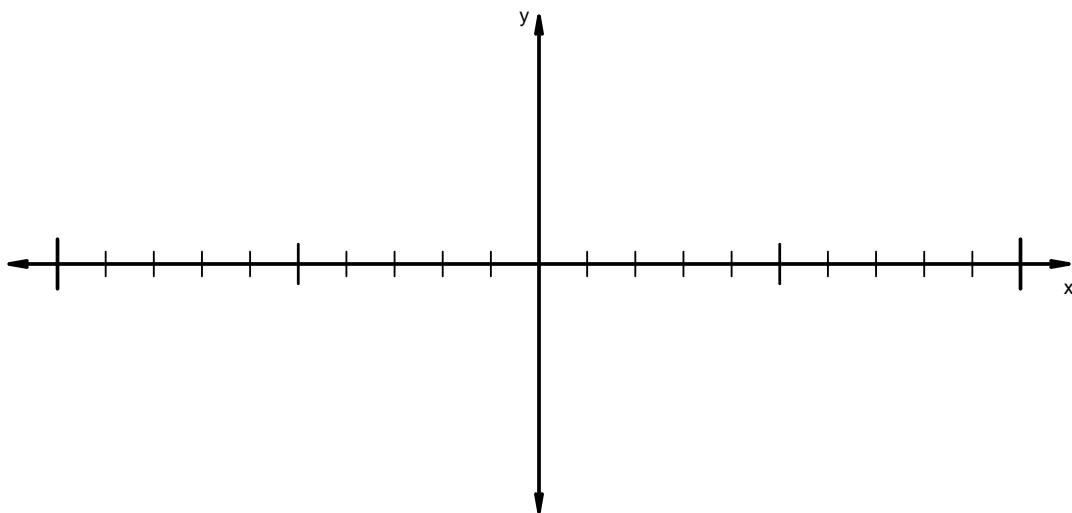
## Polynomial Factoring EXAM (version 679)

3. Write function  $f(x) = x^3 - 10x^2 + 29x - 20$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 3) \cdot (x - 2)^2 \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 680)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 60 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 + 7i$  and  $3 - 2i$  in standard form  $(a + bi)$ .

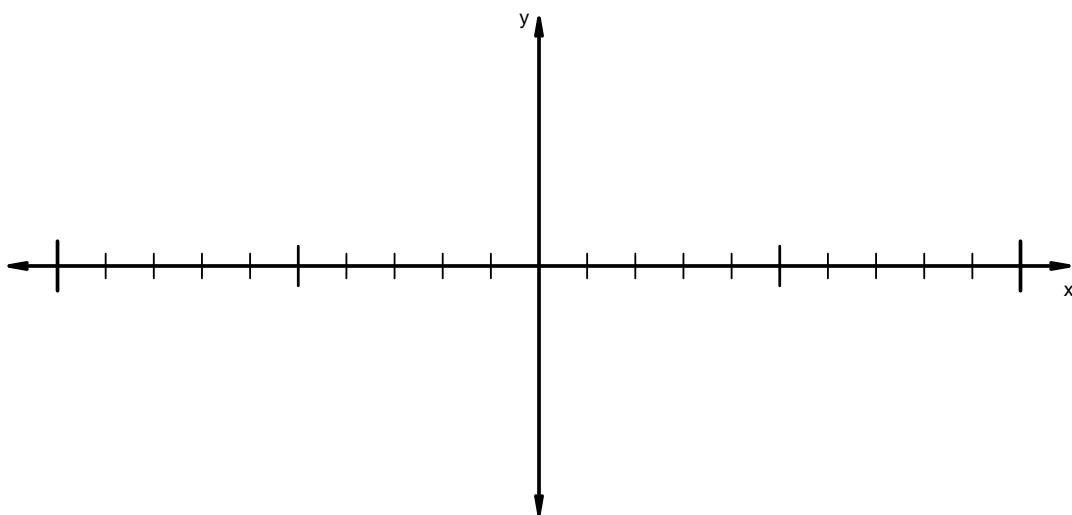
## Polynomial Factoring EXAM (version 680)

3. Write function  $f(x) = x^3 + 7x^2 - 6x - 72$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 2) \cdot (x - 2)^2 \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 681)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 39 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $9 + 3i$  and  $2 + 5i$  in standard form  $(a + bi)$ .

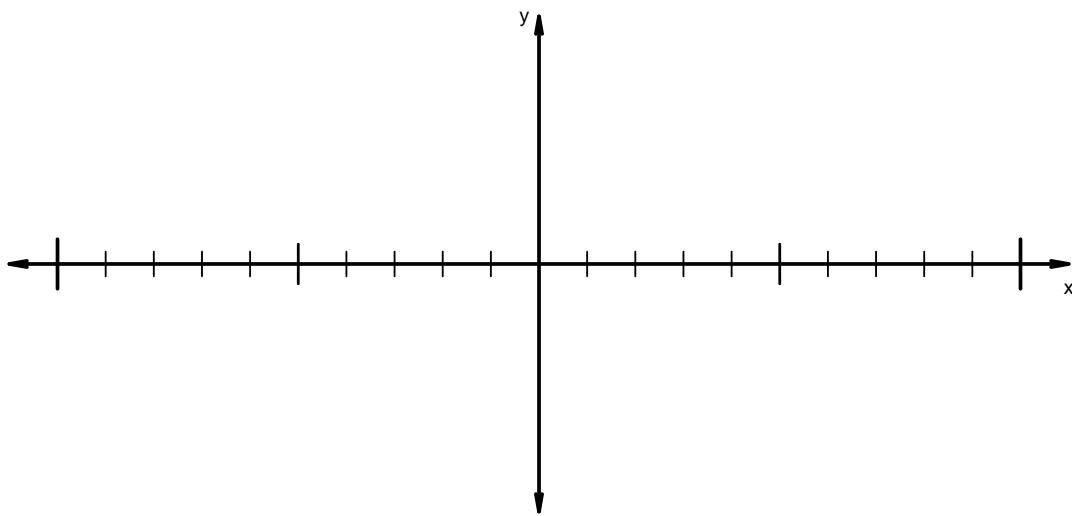
## Polynomial Factoring EXAM (version 681)

3. Write function  $f(x) = x^3 + 8x^2 + 19x + 12$  in factored form. I'll give you a hint: one factor is  $(x + 4)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4) \cdot (x - 1) \cdot (x - 5)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 682)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 4x + 22 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-3 - 6i$  and  $-2 + 8i$  in standard form  $(a + bi)$ .

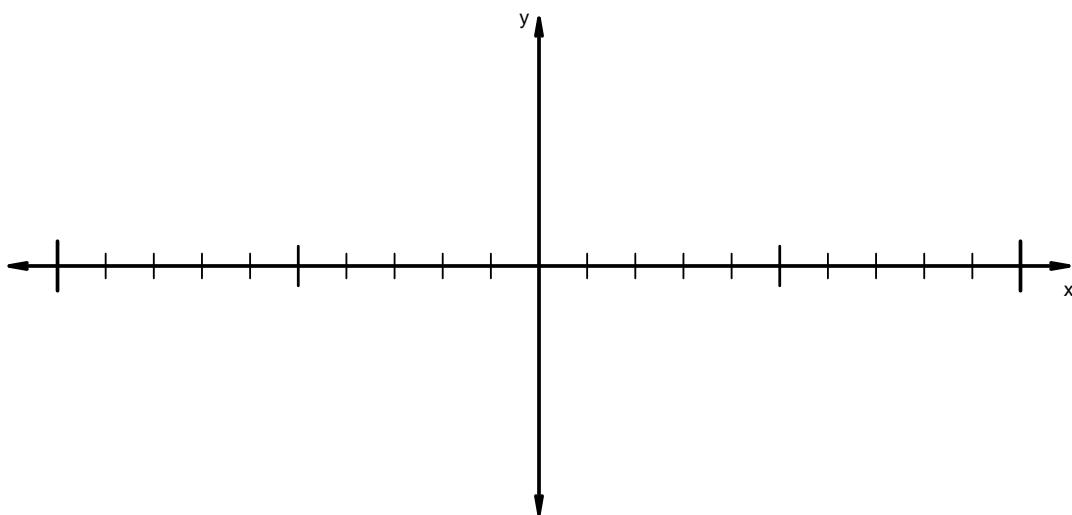
## Polynomial Factoring EXAM (version 682)

3. Write function  $f(x) = x^3 + 2x^2 - 13x + 10$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 1)^2 \cdot (x - 3) \cdot (x - 8)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 683)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 12x + 41 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $9 - 5i$  and  $-4 - 3i$  in standard form  $(a + bi)$ .

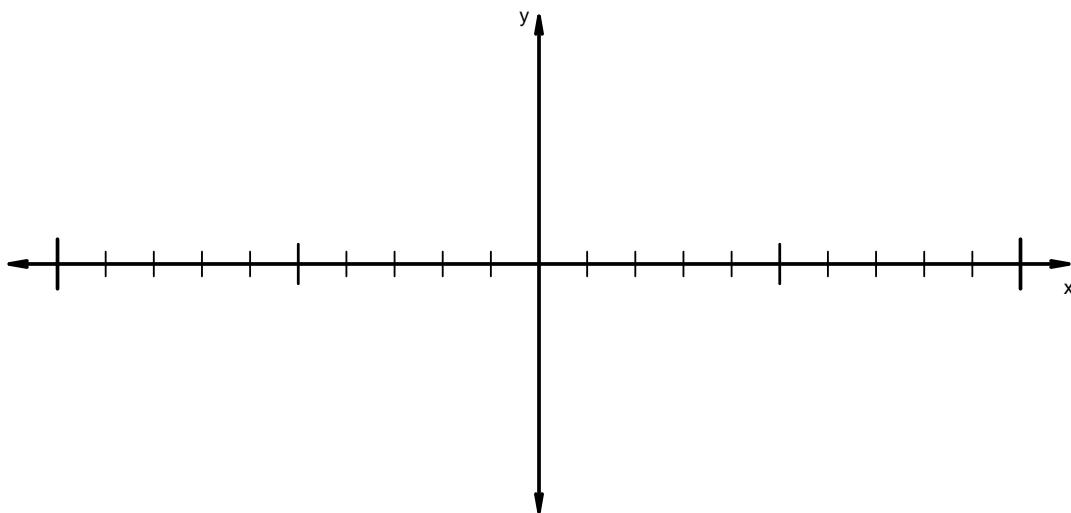
## Polynomial Factoring EXAM (version 683)

3. Write function  $f(x) = x^3 + 4x^2 - 11x - 30$  in factored form. I'll give you a hint: one factor is  $(x + 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 2) \cdot (x - 2) \cdot (x - 6)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 684)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 6x + 37 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $7 + 3i$  and  $-5 + 8i$  in standard form  $(a + bi)$ .

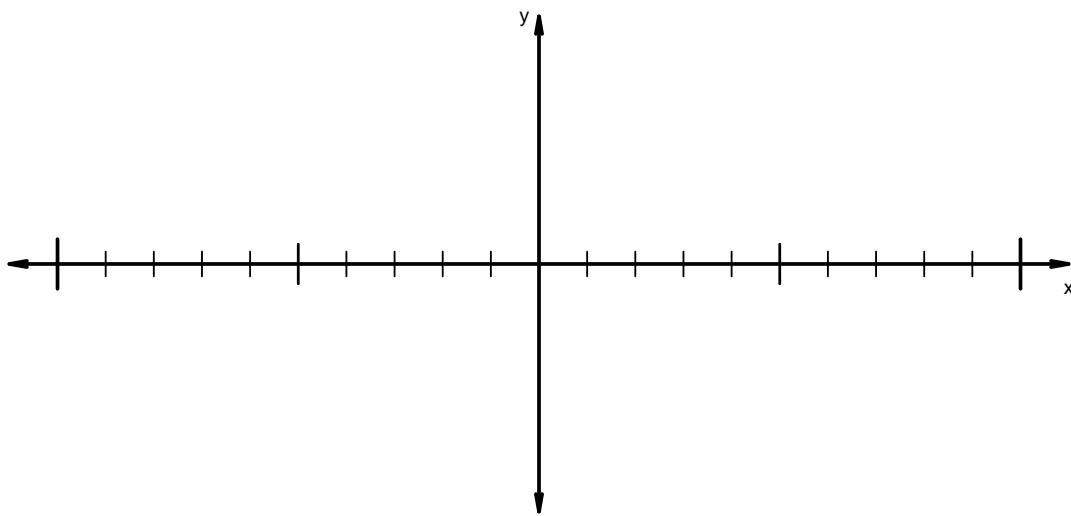
## Polynomial Factoring EXAM (version 684)

3. Write function  $f(x) = x^3 + 7x^2 + 7x - 15$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 1) \cdot (x - 4)^2 \cdot (x - 7)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 685)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 48 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-3 - 2i$  and  $-4 - 9i$  in standard form  $(a + bi)$ .

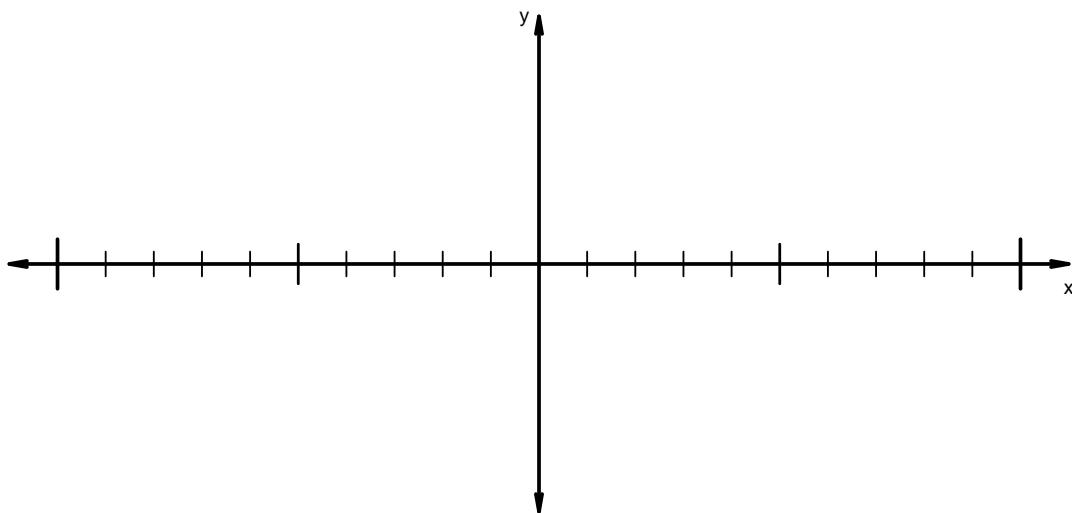
## Polynomial Factoring EXAM (version 685)

3. Write function  $f(x) = x^3 - x^2 - 4x + 4$  in factored form. I'll give you a hint: one factor is  $(x + 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7)^2 \cdot (x + 2) \cdot (x - 3) \cdot (x - 8)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 686)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 10x + 52 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-7 + 6i$  and  $2 - 8i$  in standard form  $(a + bi)$ .

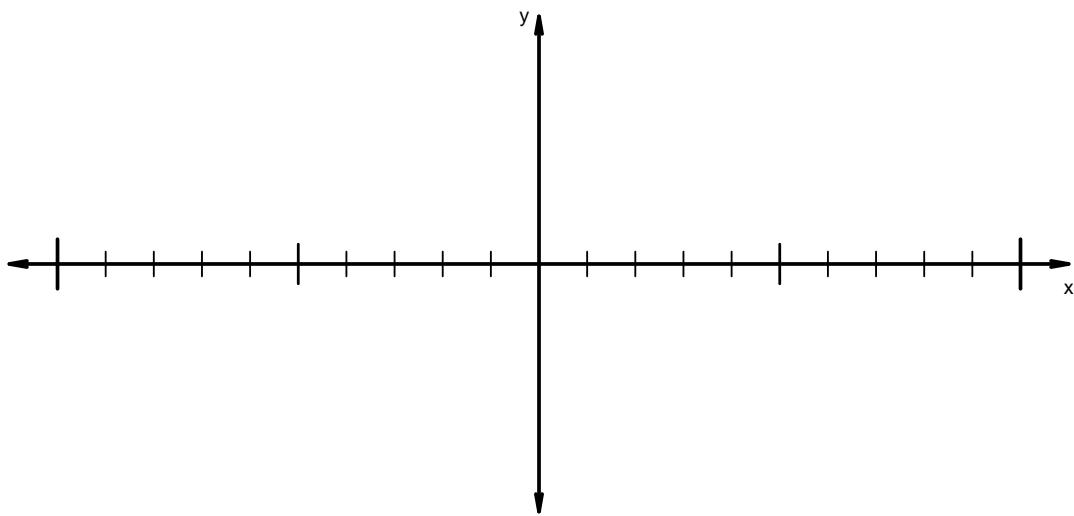
## Polynomial Factoring EXAM (version 686)

3. Write function  $f(x) = x^3 - 3x^2 - 6x + 8$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 7)^2 \cdot (x + 2)^2 \cdot (x - 1)^2 \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 687)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 54 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $9 - 4i$  and  $5 + 7i$  in standard form  $(a + bi)$ .

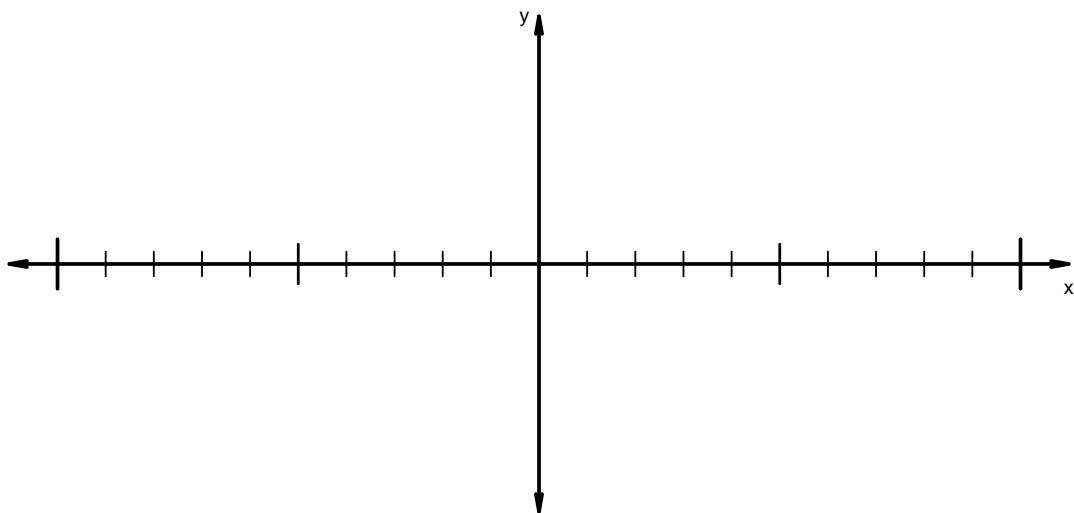
## Polynomial Factoring EXAM (version 687)

3. Write function  $f(x) = x^3 + 6x^2 - x - 6$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7)^2 \cdot (x + 4) \cdot (x + 1)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 688)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 6x + 22 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $5 + 9i$  and  $-3 - 7i$  in standard form  $(a + bi)$ .

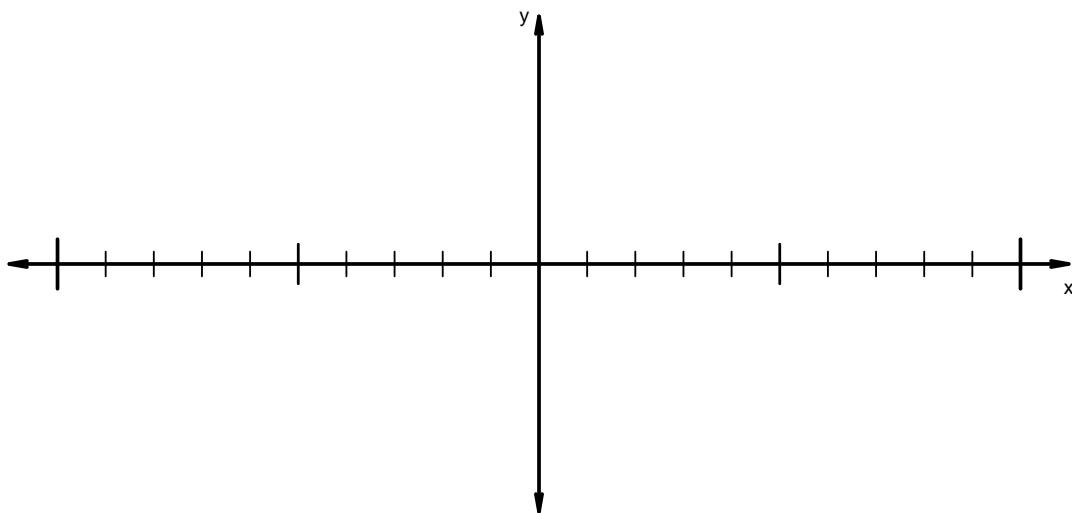
## Polynomial Factoring EXAM (version 688)

3. Write function  $f(x) = x^3 - 3x^2 - 16x - 12$  in factored form. I'll give you a hint: one factor is  $(x - 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 7)^2 \cdot (x + 2) \cdot (x - 1)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 689)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 12x + 44 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $9 + 4i$  and  $-3 - 5i$  in standard form  $(a + bi)$ .

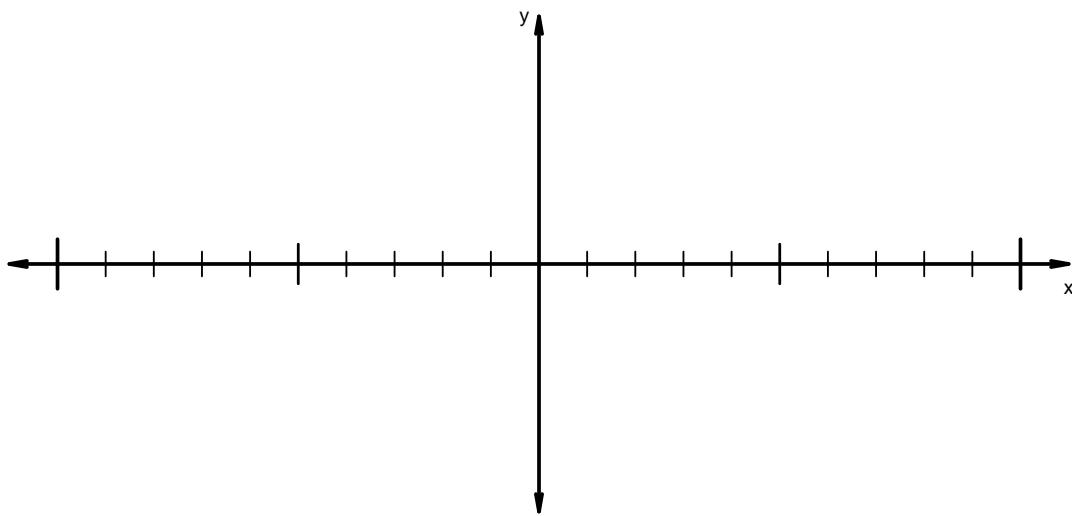
## Polynomial Factoring EXAM (version 689)

3. Write function  $f(x) = x^3 + 2x^2 - 21x + 18$  in factored form. I'll give you a hint: one factor is  $(x - 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4)^2 \cdot (x + 1)^2 \cdot (x - 3)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 690)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 2x + 13 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $3 - 4i$  and  $-8 + 2i$  in standard form  $(a + bi)$ .

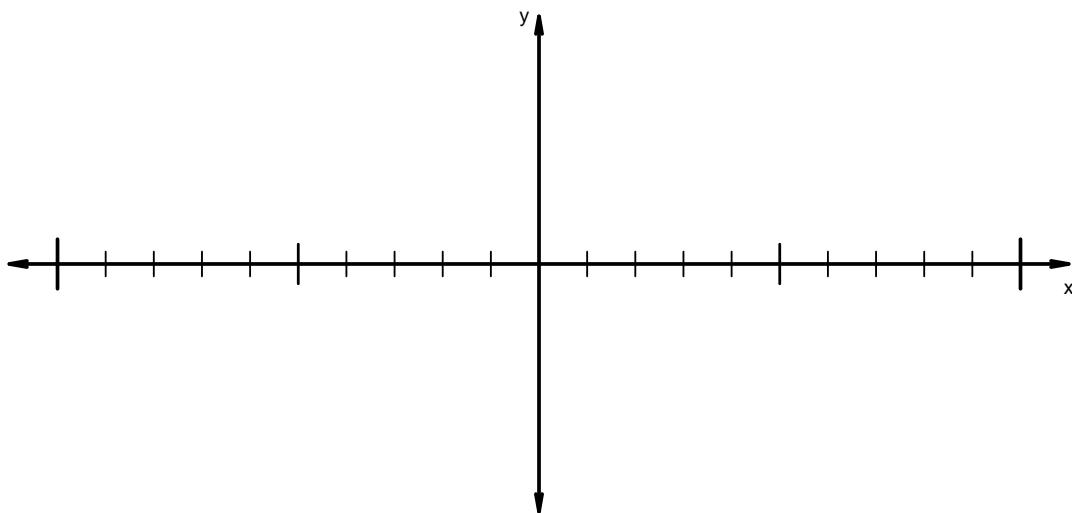
## Polynomial Factoring EXAM (version 690)

3. Write function  $f(x) = x^3 + 15x^2 + 74x + 120$  in factored form. I'll give you a hint: one factor is  $(x + 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 8)^2 \cdot (x + 5) \cdot (x + 1)^2 \cdot (x - 4)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 691)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 4x + 24 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $5 - 4i$  and  $-9 + 6i$  in standard form  $(a + bi)$ .

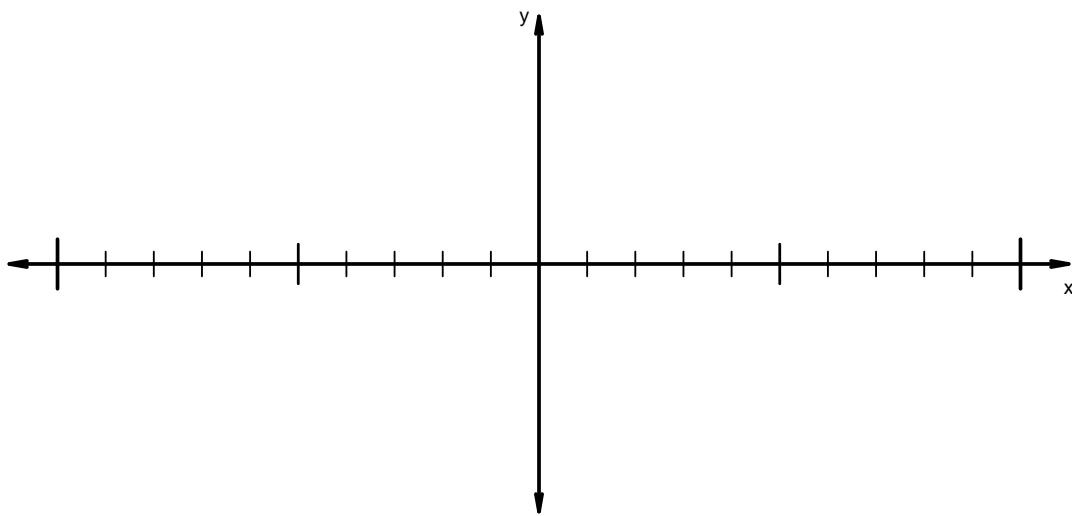
## Polynomial Factoring EXAM (version 691)

3. Write function  $f(x) = x^3 + x^2 - 10x + 8$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7) \cdot (x + 2)^2 \cdot (x - 1) \cdot (x - 6)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 692)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 43 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $3 - 8i$  and  $9 + 5i$  in standard form  $(a + bi)$ .

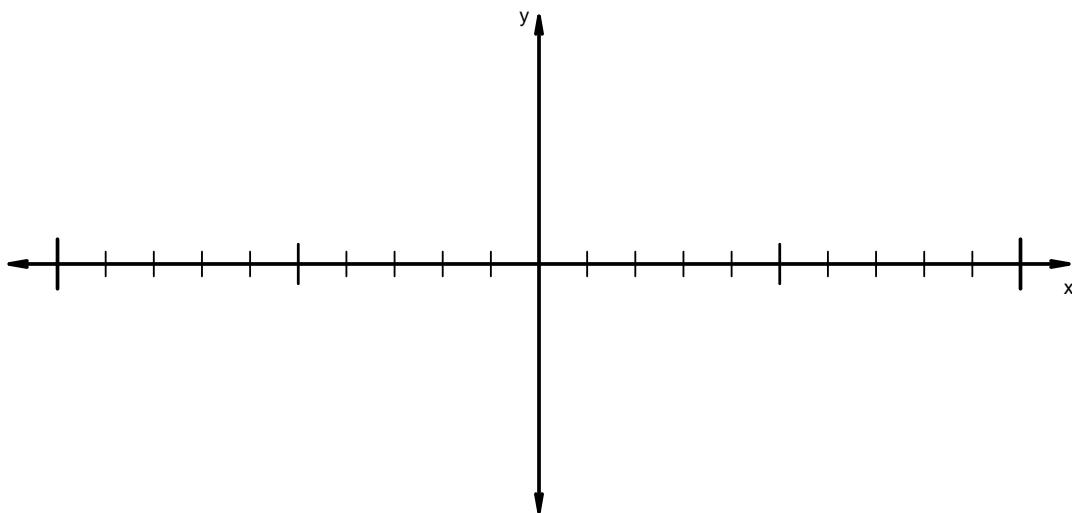
## Polynomial Factoring EXAM (version 692)

3. Write function  $f(x) = x^3 + 3x^2 - 18x - 40$  in factored form. I'll give you a hint: one factor is  $(x + 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 7)^2 \cdot (x + 4)^2 \cdot (x - 1) \cdot (x - 5)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 693)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 4x + 31 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $3 - 9i$  and  $-6 + 4i$  in standard form  $(a + bi)$ .

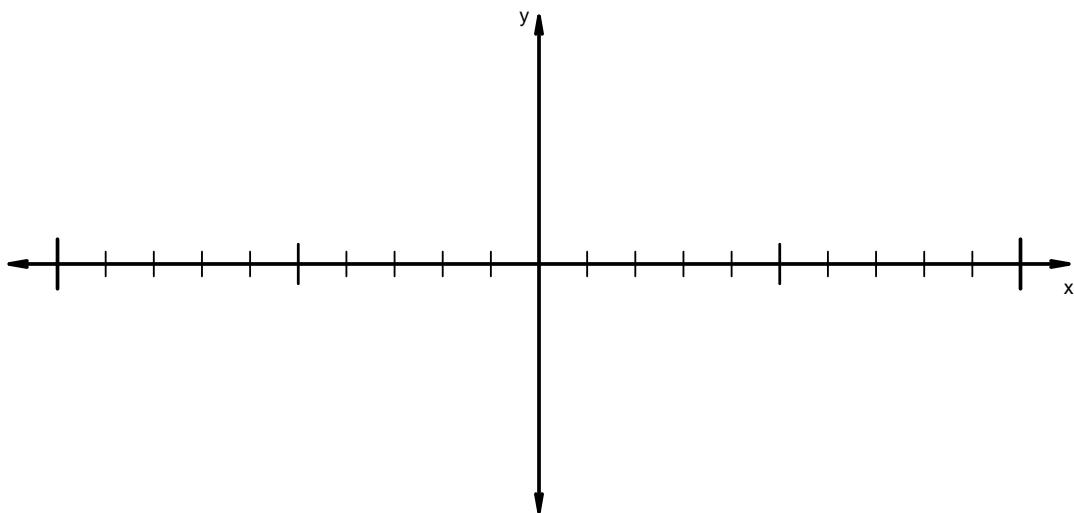
## Polynomial Factoring EXAM (version 693)

3. Write function  $f(x) = x^3 - 2x^2 - x + 2$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 4) \cdot (x + 1)^2 \cdot (x - 2)^2 \cdot (x - 6)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 694)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 60 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-8 + 6i$  and  $2 + 9i$  in standard form  $(a + bi)$ .

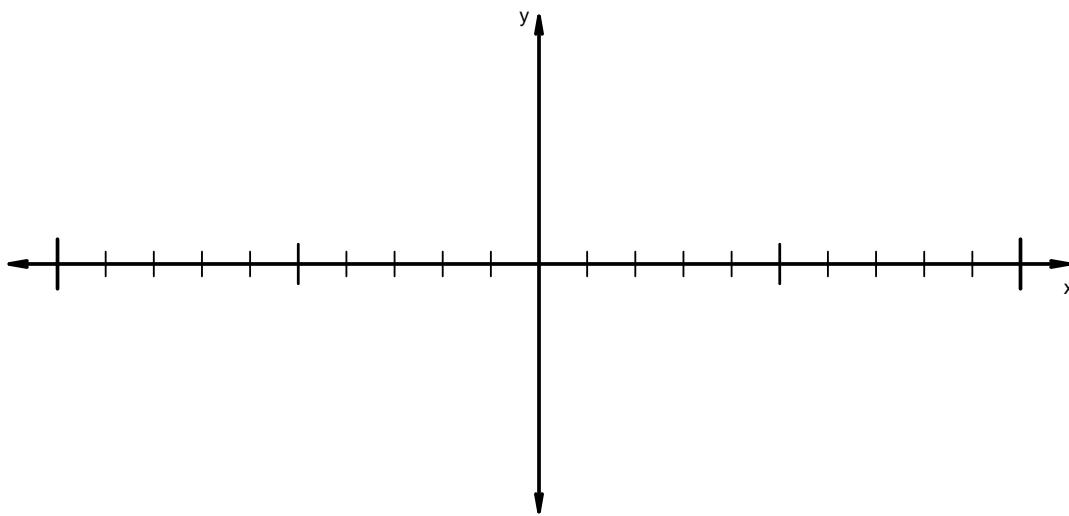
## Polynomial Factoring EXAM (version 694)

3. Write function  $f(x) = x^3 - 6x^2 + 11x - 6$  in factored form. I'll give you a hint: one factor is  $(x - 1)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 1) \cdot (x - 2) \cdot (x - 7)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 695)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 12x + 44 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-2 + 4i$  and  $8 + 3i$  in standard form  $(a + bi)$ .

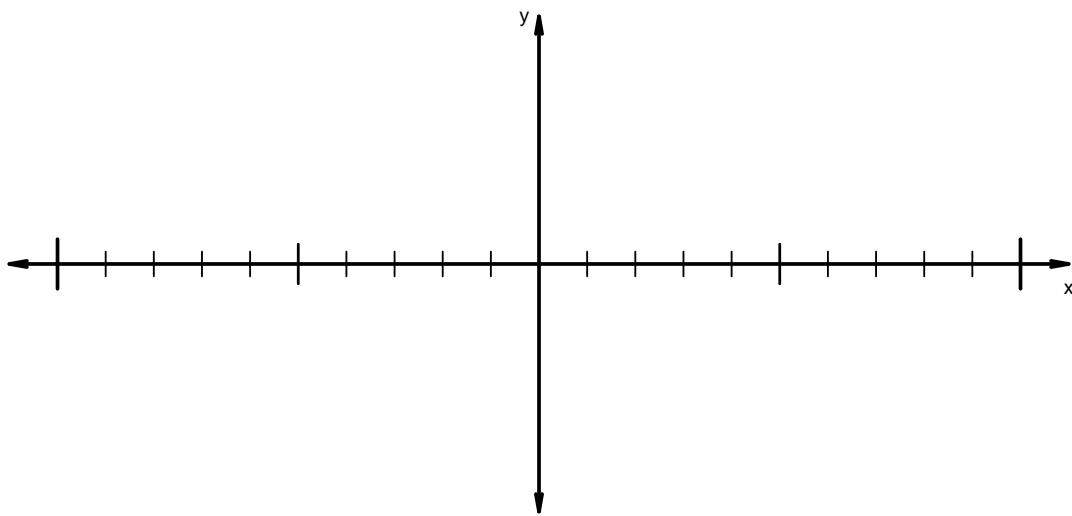
## Polynomial Factoring EXAM (version 695)

3. Write function  $f(x) = x^3 - 14x^2 + 63x - 90$  in factored form. I'll give you a hint: one factor is  $(x - 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 6)^2 \cdot (x + 2) \cdot (x - 1) \cdot (x - 4)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 696)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 8x + 28 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $3 + 5i$  and  $-4 - 7i$  in standard form  $(a + bi)$ .

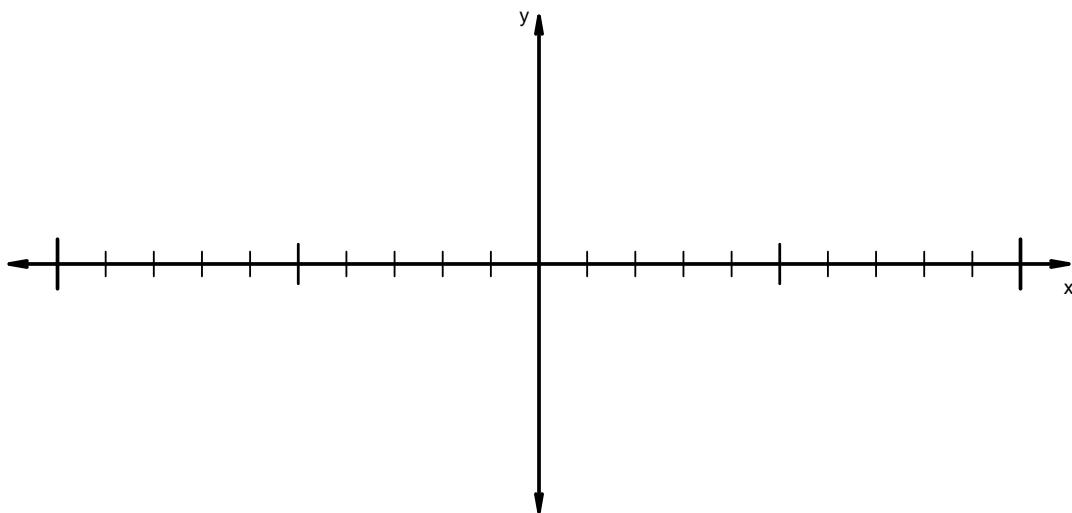
## Polynomial Factoring EXAM (version 696)

3. Write function  $f(x) = x^3 + 5x^2 - 12x - 36$  in factored form. I'll give you a hint: one factor is  $(x + 2)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 6) \cdot (x + 3) \cdot (x - 1) \cdot (x - 4)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 697)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 10x + 36 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $6 - 3i$  and  $7 - 4i$  in standard form  $(a + bi)$ .

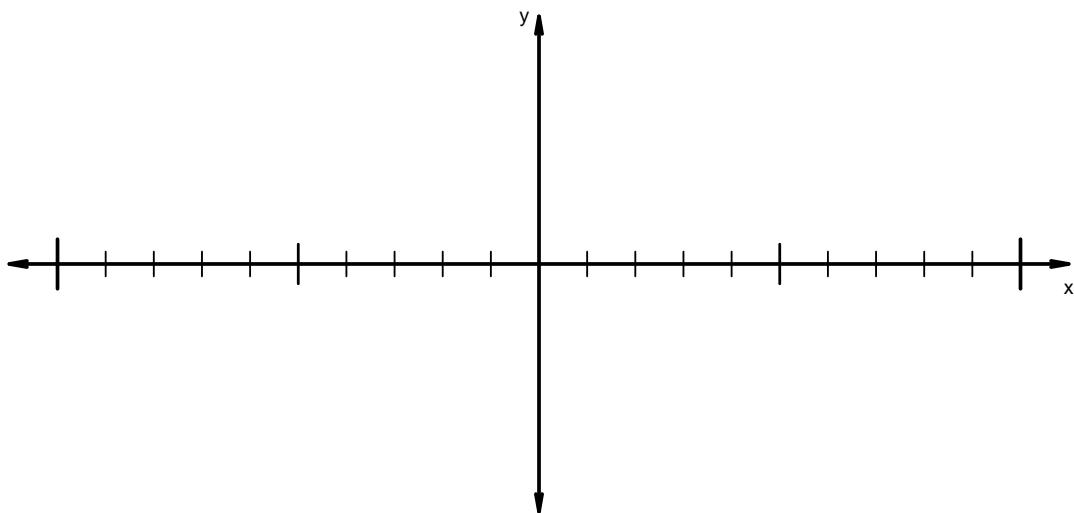
## Polynomial Factoring EXAM (version 697)

3. Write function  $f(x) = x^3 + x^2 - 30x - 72$  in factored form. I'll give you a hint: one factor is  $(x + 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 6) \cdot (x + 3) \cdot (x - 2)^2 \cdot (x - 6)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 698)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 + 2x + 19 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $-8 - 9i$  and  $2 - 3i$  in standard form  $(a + bi)$ .

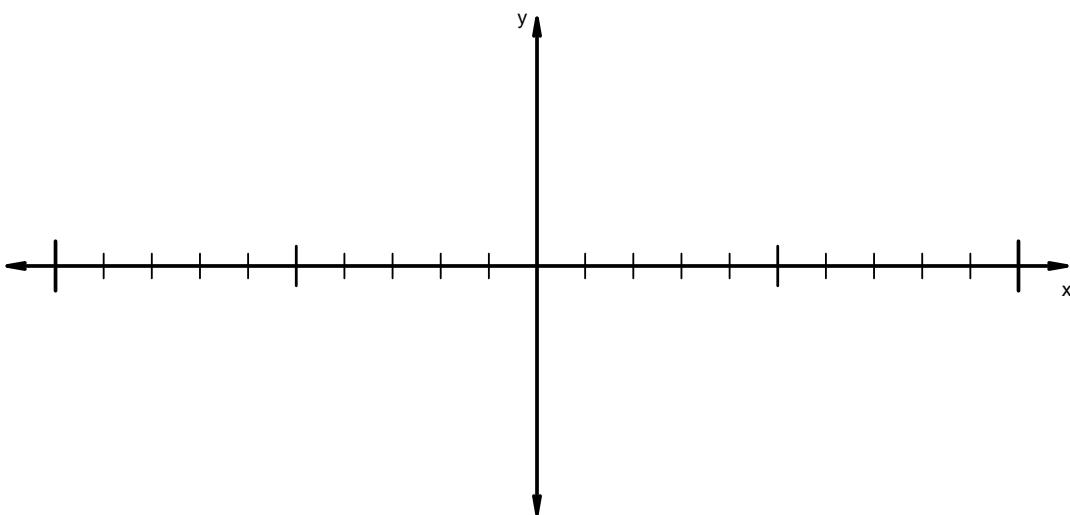
## Polynomial Factoring EXAM (version 698)

3. Write function  $f(x) = x^3 + 11x^2 + 36x + 36$  in factored form. I'll give you a hint: one factor is  $(x + 6)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = -(x + 5) \cdot (x + 1)^2 \cdot (x - 4)^2$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 699)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 10x + 43 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $5 - 3i$  and  $-8 + 6i$  in standard form  $(a + bi)$ .

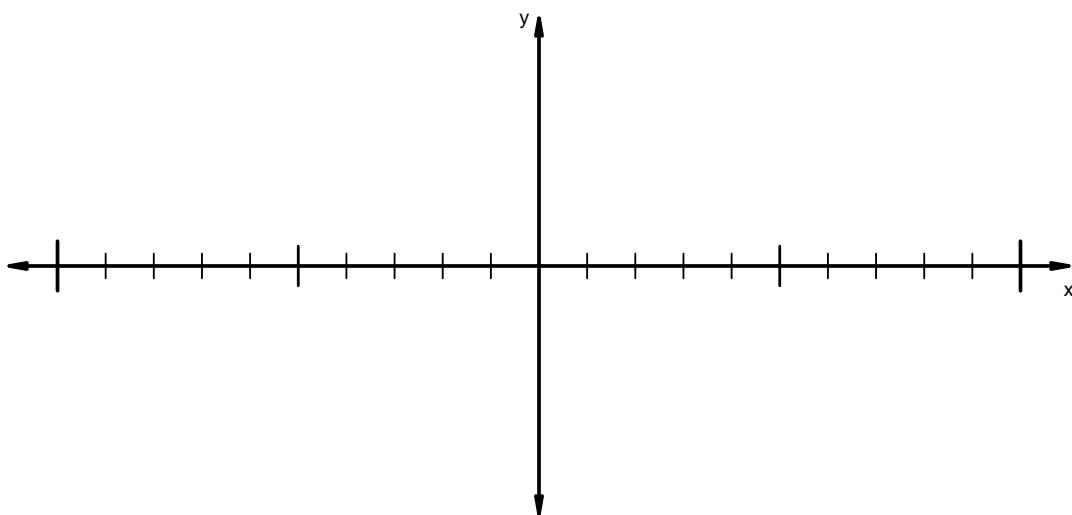
## Polynomial Factoring EXAM (version 699)

3. Write function  $f(x) = x^3 + 9x^2 + 23x + 15$  in factored form. I'll give you a hint: one factor is  $(x + 3)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 5)^2 \cdot (x + 2) \cdot (x - 3)$$

Sketch a graph of polynomial  $y = p(x)$ .



Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Polynomial Factoring EXAM (version 700)

1. The quadratic formula says if  $ax^2 + bx + c = 0$  then  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ . Use the quadratic formula to solve the following equation.

$$x^2 - 10x + 52 = 0$$

Simplify your answer(s) as much as possible.

2. Express the product of  $3 + 8i$  and  $-2 + 6i$  in standard form  $(a + bi)$ .

## Polynomial Factoring EXAM (version 700)

3. Write function  $f(x) = x^3 - 7x^2 + 7x + 15$  in factored form. I'll give you a hint: one factor is  $(x - 5)$ .

4. Polynomial  $p$  is defined below in factored form.

$$p(x) = (x + 4) \cdot (x + 1) \cdot (x - 3)^2 \cdot (x - 6)$$

Sketch a graph of polynomial  $y = p(x)$ .

